COUNTY PALATINE OF LANCASTER.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1901.

WITH STATISTICAL INFORMATION
AND SUMMARY OF REPORTS OF DISTRICT
MEDICAL OFFICERS OF HEALTH, &c.

(Presented to the County Council, November 6th, 1902.)

PRESTON:
PRINTED BY T. SNAPE & CO., CHURCH STREET AND BOLTON'S COURT.
MCMII.

PUBLIC HEALTH
TREATMENT

PUBLIC HEALTH
DEPARTMENT

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CONTENTS.

ADMINISTRATIVE COUNTY.

	PAGE.
Prefatory Remarks	vii.
Reports received from Medical Officers of Health	viii.
Contributions towards Salaries	viii.
Local Government Board Loans for Sanitary purposes	viii.
Area, Population, &c.	xi.
Census (1901)	xi.
Births and Birth-rates	xvi.
Deaths and Death-rates	xvii.
Infant Mortality	xx.
Deaths from the Seven Principal Zymotic Diseases	xxi.
Small-pox	xxiii.
Measles	xxiv.
Scarlet Fever	xxv.
Whooping Cough	xxvii.
Diphtheria and Membranous Croup	xxviii.
Fever—Typhus, Typhoid, and Continued	xxx.
Diarrhœa	xxxi.
Epidemic Influenza	xxxiv.
Respiratory Diseases	xxxiv.
Tuberculous Phthisis	xxxv.
Sanatoria	xxxvii.
Infectious Disease Notification	xxxviii.
Isolation Hospitals	xl.
Disinfection	xliii.
Sanitary Administration	xliii.
Abatement of Nuisances	xliii.
Housing of the Working Classes, Canal Boats	xliv.
Slaughter-houses, Bakehouses, Lodging-houses, Factories and Workshops	xlv.
Dairies, Cowsheds, and Milkshops	xlv.
Smoke Nuisance	xlvi.
Scavenging and Refuse Removal	xlviii.
Conversion of Privy and Pail Closets	xlix.
House Drainage, Sewerage, and Sewage Disposal	xlix.
Water Supply	li.
Sale of Food and Drugs Acts	lii.
Recommendations of Departmental Committee	lii.

URBAN SANITARY DISTRICTS.

ANNUAL REPORTS, SUMMARY OF—

	PAGE.
Abram	3
Accrington Borough	4
Adlington	6
Allerton	8
Ashton-in-Makerfield	9
Ashton-under-Lyne Borough	10
Aspull	12
Atherton	14
Audenshaw	15
Bacup Borough	17
Barrowford	18
Billinge	20
Birkdale	21
Blackpool Borough	22
Blackrod	26
Brierfield	27
Carnforth	28
Chadderton	29
Childwall	31
Chorley Borough	32
Church	34
Clayton-le-Moors	35
Clitheroe Borough	36
Colne Borough	38
Crompton	40
Croston	41
Dalton-in-Furness	43
Darwen Borough	44
Denton	47
Droylsden	49
Eccles Borough	50
Failsworth	53
Farnworth	55
Fleetwood	57
Fulwood	58
Garston	59
Golborne	61
Gorton	62
Grange-over-Sands	64
Great Crosby	65
Great Harwood	66
Haslingden Borough	68
Haydock	70
Heaton Norris	72
Heysham	73
Heywood Borough	75
Hindley	77
Horwich	79
Hurst	80
Huyton-with-Roby	82
Ince-in-Makerfield	83
Irlam	85
Kearsley	86
Kirkham	88
Lancaster Borough	89
Lathom and Burscough	92
Lees	94
Leigh Borough	95
Levenshulme	97
Leyland	99
Litherland	100
Littleborough	102
Little Crosby	103
Little Hulton	104
Little Lever	106
Little Woolton	107
Longridge	108
Lytham	109
Middleton Borough	111
Milnrow	113
Morecambe	115
Mossley Borough	117
Moss Side	118
Much Woolton	120
Nelson Borough	122
Newton-in-Makerfield	124
Norden	125
Ormskirk	127
Orrell	128
Oswaldtwistle	129
Padiham	131
Pemberton	132

	PAGE.
Poulton-le-Fylde	134
Preesall-with-Hackinsall	135
Prescot	137
Prestwich	138
Radcliffe	140
Rainford	141
Ramsbottom	143
Rawtenstall Borough	145
Reddish	147
Rishton	148
Royton	149
St. Annes-on-the-Sea	151
Skelmersdale	153
Southport Borough	154
Standish-with-Langtree	157
Stretford	158
Swinton and Pendlebury	161
Thornton	163
Tottington	164
Trawden	166
Turton	167
Tyldesley-with-Shakerley	169
Ulverston	170
Upholland	172
Urmston	173
Walton-le-Dale	174
Wardle	176
Waterloo-with-Seaforth	177
Westhoughton	179
Whitefield	181
Whitworth	182
Widnes Borough	183
Withington	185
Withnell	187
Worsley	188

RURAL SANITARY DISTRICTS.

ANNUAL REPORTS, SUMMARY OF—

	PAGE.
Barton-upon-Irwell	190
Blackburn	192
Burnley	193
Bury	195
Chorley	197
Clitheroe	199
Fylde	200
Garstang	202
Lancaster	204
Leigh	206
Limehurst	207
Lunesdale	208
Preston	210
Sefton	211
Ulverston	213
Warrington	215
West Lancashire	216
Whiston	219
Wigan	220

APPENDIX.

	PAGE.
METEOROLOGICAL TABLES	222
TABLE I.—URBAN DISTRICTS.—Area, Population, Birth-rate, Death-rate, Deaths at certain ages, &c.	228
TABLE II.—URBAN DISTRICTS.—Deaths from certain specified causes	236
TABLE III.—RURAL DISTRICTS.—Area, Population, Birth-rate, Death-rate, Deaths at certain ages, &c.	248
TABLE IV.—RURAL DISTRICTS.—Deaths from certain specified causes	250
TABLE V.—Table of Deaths and Cases notified or ascertained	253

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PUBLIC HEALTH COMMITTEE
(1902).

The Chairman of the County Council:
The Right Hon. Sir J. T. Hibbert, K.C.B.

The Vice-Chairman of the County Council:
Sir William H. Houldsworth, Bart., M.P.

Chairman of Committee:
R. Sephton, Esq., C.C.

Vice-Chairman:
James Fletcher, Esq., C.C.

County Alderman—

T. Snape, Esq.

County Councillors—

J. Ashworth, Esq.
A. Carus, Esq.
J. Chadwick, Esq.
H. Dyson, Esq.
W. Gamble, Esq.
W. Garnett, Esq.
W. Hodgson, Esq.
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A. J. Lowe, Esq.
S. Mellor, Esq.
F. Neil, Esq.
C. J. Trimble, Esq.

REPORT

OF THE

MEDICAL OFFICER OF HEALTH

For the Year ending December 31st, 1901.

To the Right Hon. the Chairman and Members of the County Council of the County Palatine of Lancaster.

GENTLEMEN,

I have the honour to present to you my thirteenth Annual Report on the health and sanitary condition of the Administrative County, together with a summary of each Annual Report received from district Medical Officers of Health. The statistical information now required to fill up the new tables issued by the Local Government Board has been somewhat extended and will prove of value for future reference. Greater uniformity in local statistics will be secured, as Medical Officers of Health in framing their reports are now required to include the nett deaths actually belonging to the district, and all deaths taking place in public institutions of persons not belonging to the district in which the institution is situate are entirely excluded.

It is satisfactory to note that during the year under report, the County death-rate, corresponding to 16·28 per 1,000 of the population, shows an improvement as compared with 17·19 recorded in the previous year, and with 18·16, the County average for the 10 years 1891-1900. The zymotic rate at 2·07 per 1,000 was exactly the same as that for the previous year, and the proportion of infant deaths to 1,000 births was 161 against 162 in 1900.

Reports were received from the whole of the 136 districts in the County; of these 103 were printed, 13 were typewritten, and 20 in manuscript. The last report was received on the 16th of July, but the tables were not finally corrected until the 25th of August.

The special reports with respect to outbreaks of epidemic disease supplied by Medical Officers of Health under the 19th section of the Local Government Act, 1888, amounted to 48 as compared with 80 in the previous year. Monthly returns of deaths and cases of infectious disease notified or ascertained were received from 133 districts; only 3 Authorities, viz., Blackpool (B.), Lancaster (B.), and Little Crosby failed to supply this desirable information.

From the Exchequer Contribution Account payments have been made towards the salaries of sanitary officials under section 24 of the Local Government Act. Claims are now presented by 117 Authorities, *i.e.*, 16 boroughs, 82 urban districts, and 19 rural districts. The total payments during the year amounted to £8,598 14s. 3d., of which Medical Officers of Health received £3,990 14s. 4d. and Sanitary Inspectors £4,607 19s. 11d.

The loans sanctioned by the Local Government Board for sanitary purposes to districts within the Administrative County during the year under report indicate the great progress which must be taking place in all matters relating to public health. In the year 1901 the Local Government Board sanctioned the borrowing of £371,105 for the following purposes :—sewerage and sewage disposal £170,343, water supply £101,259, refuse destructors £39,336, sanitary depôts £6,051, labouring class dwellings £5,797, slaughter houses £3,680, public conveniences £2,800, hospital purposes £1,600, and other sanitary purposes £40,239.

Valuable assistance has been afforded those entrusted with the responsibility of securing the purity of a most important

article of food, namely—"milk," by the regulations made by the Board of Agriculture in exercise of the powers conferred on them by Section 4 of the Sale of Food and Drugs Act, 1899. These regulations, which came into force on the 1st of September, 1901, are based on the assumption that genuine milk contains 3 per cent. of milk fat and 8·5 per cent. of solids other than milk fat. The effect of these regulations was soon observed in the reduction of adulteration and consequent improvement in the character of the milk supplied throughout the Administrative County.

I am, Gentlemen,

Yours obediently,

EDWARD SERGEANT,

County Medical Officer of Health.

Preston, October 16th, 1902.

THE COUNTY.

Area and Population.—During the year 1901 the following changes took place in the constitution of the districts within the Administrative County:—

Reddish and Heaton Norris.—By the extension of the County Borough of Stockport on the 9th of November, 1901, the whole of the urban district of Reddish and a part of the urban district of Heaton Norris ceased to form part of the Administrative County. The total absorption by Stockport was equal to an area of 1,557 acres, a population of 8,750, and rateable value of £43,154 as shown below.

	Area in Acres.	Population, Census 1901.	Rateable Value. £
Reddish	1,541	8,668	41,486
Heaton Norris...	16	82	1,668

Blackburn (Rural).—The County Borough of Blackburn, on the 9th of November, 1901, incorporated portions of the townships of Livesey and Witton in the Blackburn rural district, representing an area of 440 acres, population 1,590, and rateable value £7,658.

The acreage of the Administrative County corresponds exactly to that given in the Census returns (1901), viz., 1,092,925 statute acres, but at the end of the year, as already stated, 1,997 acres had been withdrawn, leaving an area of 1,090,928 acres. In the tables I. and III. appended to this Report (page 228 *et seq.*) the exact acreage of each district is given.

The total population of the Administrative County, according to the recent Census, amounted to 1,827,436, equal to an increase of 262,740 during the past decade, notwithstanding the loss of about 232,000 owing to extensions of County

Boroughs and the withdrawal of Warrington on becoming a County Borough.

The 15 County Boroughs within the Geographical County of Lancaster contain an area of 103,828 statute acres, and a population of 2,559,607, which together with the Administrative County gives a total area of 1,196,753 statute acres, and a population of 4,387,043.

The increase of population in the Administrative County since 1891 was equal to 16·8 per cent., while in the rural districts it was only 6·3 per cent., and in the County Boroughs 9·3 per cent. The rate of increase for the whole Geographical County corresponded to 12·3 per cent.

The municipal boroughs and urban districts within the Administrative County represent 87·2 per cent., and the rural districts 12·7 per cent. of the entire population.

The table below, compiled from the Census return, shows the male and female populations, number of houses, &c., in the whole of the districts within the Administrative County :—

	Area in Statute Acres.	HOUSES, 1901.				POPULATION.			
			Uninhabited (On Census Night).			1891.	1901.		
		Inhabited	In Occupation.	Not in Occupation.	Building.	Persons.	Persons.	Males.	Females
Administrative County of Lancaster	1,092,925	377,649	11,672	16,327	3,595	1,564,696	1,827,436	874,234	953,202
Urban Districts	365,159	330,819	10,668	13,786	3,242	1,346,032	1,594,964	759,303	835,661
Rural Districts	727,766	46,830	1,004	2,541	353	218,664	232,472	114,931	117,541

The population in 1900 was shown by the Census to have

been over-estimated by Medical Officers of Health in 102 districts representing an excess of population equal to 58,772; in 33 districts the population was under-estimated, and in one district the population obtained at the Census had been given exactly. In the following districts the over-estimate of population was most marked, amounting to 1,978 in Accrington (B.), 1,895 Bacup (B.), 1,041 Barrowford, 2,818 Blackpool (B.), 1,608 Chadderton, 2,000 Colne (B.), 1,573 Crompton, 2,131 Eccles (B.), 1,918 Fleetwood, 2,436 Gorton, 1,563 Ince-in-Makerfield, 2,251 Lancaster (B.), 1,539 Milnrow, 2,002 Morecambe (B.), 2,184 Nelson (B.), 1,795 Padiham, 2,480 Ramsbottom, 4,155 Southport (B.), 1,898 Waterloo-with-Seaforth, 3,420 Widnes (B.), 1,911 Burnley (R.), 1,582 Warrington (R.), &c. In the following districts the population of 1900 was under-estimated by 2,037 in Ashton-in-Makerfield, 1,292 in Newton-in-Makerfield, 1,339 Prestwich, 1,836 Stretford, 1,202 Withington, 918 Limehurst (R.), &c

In consequence of the over-estimate of population in a large number of districts, it is obvious that for some years preceding 1901 the birth-rates and death-rates for those years have been materially understated. In a memorandum recently issued by the Local Government Board, it is recommended that in all such cases a revised estimate should be made of the population in the years intermediate between 1891 and 1901 in the light of the numbers enumerated in the last Census, and the birth and death rates should be recalculated for the intermediate years upon the population as thus revised. In the reports submitted this advice has been followed in a few instances, but the majority have not altered the figures of previous years. In the various district summaries given in the appendix the rates obtained from the reports submitted have invariably been used.

In some of the municipal boroughs and urban districts expansion since 1891 has been rapid. The following list shows the districts, arranged according to the progress made, and

where the population has increased during the intercensal period by more than 50 per cent. :—

	1891.	1901.	Increase per cent.
Heysham	766	3,381	341·4
Thornton	996	3,108	212·0
St. Annes-on-the-Sea	2,588	6,838	164·2
Litherland	4,441	10,592	138·5
Levenshulme	5,506	11,485	108·6
Blackpool (B.)	23,846	47,348	98·6
Morecambe	6,500	11,798	81·5
Gorton	15,215	26,564	74·6
Urmston	4,042	6,594	63·1
Preesall-with-Hackinsall	896	1,423	58·8
Poulton-le-Fylde	1,412	2,223	57·4
Lytham	4,656	7,185	54·3

There are, in addition, 23 municipal boroughs or urban districts having in each case an increase in population exceeding 20 per cent. On the other hand, in 17 cases a decrease of population is recorded, but in no instance does this decrease assume considerable proportions. The following are the districts of most importance in this latter category :—

	1891.	1901.	Decrease per cent.
Mossley (B.)	14,162	13,452	5·0
Widnes (B.)	30,011	28,580	4·8
Ramsbottom	16,726	15,920	4·8
Bacup (B.)	23,498	22,505	4·2
Dalton-in-Furness	13,300	13,020	2·1
Whitworth	9,766	9,578	1·9

On the whole, it is apparent that increase of population is less rapid in the great towns than among comparatively small urban communities.

The Census showed that in the aggregate of urban districts the proportion of tenements with less than five rooms to the total number of tenements is 50·2 per cent., and in the aggregate of rural districts it is 37·3 per cent. Tenements of only one room average 1·7 per cent. of the total urban districts, and 0·2 per cent. in the rural. Of the two-roomed tenements the proportions are 5·6 per cent. and 3·2 per cent., and of three-roomed tenements they are 4·7 per cent. and 5·2 per cent. respectively. Among the municipal boroughs and the larger urban districts with populations exceeding 20,000, the proportion to total tenements of tenements having less than five rooms exceeds two-thirds or 66·6 per cent. in Ashton-under-Lyne (B.), Bacup (B.), Chadderton, Heywood (B.), Ince-in-Makerfield, and Radcliffe. On the other hand the proportion is below one-third or 33·3 per cent. in Blackpool (B.), Eccles (B.), Lancaster (B.), Leigh (B.), Moss Side, Southport (B.), Stretford, Waterloo-with-Seaforth, and Withington.

In many of the reports it will be seen that the Census population has been used as the basis on which to calculate the rates, but in others the population is estimated to the middle of the year. Further the total population is considerably reduced, owing to the fact that in certain districts—for instance: Fulwood, Prestwich, Withington, Preston (R.), and Whiston (R.), &c.,—large Public Institutions are situated for the reception of persons from districts—chiefly County Boroughs—outside the Administrative County, and as the deaths occurring in these institutions do not come within the scope of the County statistics the population is also excluded for statistical purposes. The corrected population, according to the estimate of district Medical Officers of Health—on which the County rates are calculated — is given at 1,828,755, and the natural increase of births over deaths amounted to 18,816.

The districts reported on number 136, viz., municipal

boroughs 19, urban districts 98, and rural districts 19, but at the end of the year the County had 135 districts owing to the loss of one urban district (Reddish).

Particulars as to the area, population, &c., of the districts under review, are given in the following table :—

	Area in Acres, (per Census Returns).	Population Estimated by Medical Officers of Health, 1901.	Persons per Acre.	Acres per Person.
Municipal Boroughs ...	84,944	598,504	7·04	0·14
Urban Sanitary Districts	280,215	999,713	3·56	0·28
Rural Sanitary Districts	727,766	230,538	0·31	3·15
Administrative County..	1,092,925	1,828,755	1·67	0·59

Births registered in the 136 districts of the Administrative County amounted to 48,598—in the urban districts 42,803, and in the rural districts 5,795—equal to a reduction of 3,894 births as compared with the previous year. The birth-rate corresponds to 26·57 per 1,000 (26·78 urban and 25·13 rural), and although only slightly less than 1900 is 2·55 below the mean of the past decade. The County rate, which is the lowest on record, is 2·0 below the rate for England and Wales and 2·7 below the average of 33 great towns. According to the Registrar-General the birth-rate for the whole of England and Wales for 1901, which was 28·5 per 1,000 of the population, is "lower than that in any other year on record; compared with the average in the 10 years 1891-1900 the birth-rate in 1901 shows a decrease of 1·4 per 1,000."

The sex of the children born is given in the following table :—

	Males.	Females.	Total.
Urban Districts	21,652	21,151	42,803
Rural Districts	2,987	2,808	5,795
Administrative County ...	24,639	23,959	48,598

The birth-rates for each district (see Tables I. and III., page 228 *et seq.*) varied from 42·4 in Haydock, 40·1 Ince-in-Makerfield, 40·0 Pemberton, 39·8 Ashton-in-Makerfield, 39·2 Abram and Hindley, 38·4 Orrell, 38·2 Litherland, 36·9 Aspull, and 36·6 Skelmersdale to 16·9 Moss Side, 16·5 Heaton Norris, 16·4 Little Woolton, 13·6 Childwall, and 10·5 Grange.

Information has been obtained from 33 districts which shows that there were 494 illegitimate births, and of these 149, or 30 per cent. of the infants, died. For comparative purposes it may be mentioned that 16 per cent. of deaths occurred among the total children born in the County, or exactly the same proportion as in 1900. The illegitimate mortality was high in Ashton-under-Lyne (B.), 73 births, 29 deaths; Audenshaw, 10 births, 5 deaths; Blackpool (B.), 76 births, 37 deaths; and Gorton, 21 births, 13 deaths.

Deaths. — The number of deaths registered in the Administrative County was 29,782, or 3,889 less than in the previous year; and the excess of births over deaths amounted to 18,816, being 5 less than the natural increase of last year. Of the total deaths 15,178 (urban 13,483, rural 1,695) occurred among males, and 14,604 (urban 13,023, rural 1,581) among females. The ages at the time of death were as follows:—

Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	Total.
7,848	3,550	1,444	1,360	9,489	6,091	29,782

In compliance with the instruction given on the revised forms now issued by the Local Government Board for the tabular statements of sickness and mortality, the total deaths given by district Medical Officers of Health this year are *the nett deaths actually belonging to the district*, and all deaths taking place in public institutions of persons not belonging to the district in which the institution is situate are entirely excluded. This no doubt accounts in a great measure for the considerable decrease in the number of deaths as compared with 1900. For instance, Fulwood last year contributed 310 deaths, but the district rate excluded 274 deaths as not belonging to the district. This year details are only given of 33 deaths, and the deaths occurring in public institutions, equal to 176, are presumably allocated to the districts to which they belong. For the first time also corrections of the rates for deaths of non-residents, &c., are limited to deaths occurring in public institutions, and as a consequence certain health resorts like Lytham, St. Annes-on-the-Sea, Blackpool (B.), Southport, (B.), &c., have their statistics unduly raised by the inclusion of deaths among temporary residents. The limitation means that deaths of visitors must be included in the district statistics unless death takes place in a public institution. In St. Annes-on-the-Sea the death-rate is increased 1·7 per 1,000 by these deaths, in Blackpool (B.) by over 2 per 1,000, Lytham 2·7, &c.

The male births again exceeded the female births by 1·39 per cent., while the proportion of male deaths was 1·93 per cent. higher than that of the females. The excess of male over female deaths in the urban districts corresponded to 1·73 and in the rural districts 3·47 per cent. In 1900 the urban mortality of females was 0·73 per cent. higher than that of males, and in the rural districts the mortality of males was 2·53 per cent. in excess of that of females.

The following table gives a comparative statement of the birth and death rates :—

	Birth-rate per 1,000 of the population.	Per 1,000 of the Population.		Death-rate from the seven principal Zymotic Diseases.	Rate of Infant Mortality measured by the proportion of deaths of Infants under 1 year to 1,000 births.
		Urban Death-rate.	Rural Death-rate.		
England and Wales	28·5	17·6	15·3	2·05	151
		16·9			
33 large English Towns...	29·2	18·6	...	2·68	168
Administrative County of Lancaster — Urban ...	26·78	16·58	...	2·17	167
Administrative County of Lancaster — Rural ...	25·13	...	14·21	1·38	118
Urban & Rural Districts combined	26·57	16·28		2·07	161

The County death-rate, corresponding to 16·28 per 1,000, shows an improvement as compared with the gross rate of 17·19 and a corrected rate of 16·84 recorded last year. In the urban districts the rate was 16·58, and in the rural districts 14·21, equal to a diminution of 0·88 and 1·05 respectively as compared with the previous year. The County average for the ten years 1891-1900 was 18·16, or 1·88 higher than the rate for the year under review. The Registrar-General, in reference to the whole of England and Wales, states that "the death-rate in 1901 was 16·9 per 1,000, which is 1·3 below the rate in the year immediately preceding and the average rate in the ten years 1891-1900." In 33 large English towns the death-rate was 18·6, or 2·02 higher than the County urban

rate. The death-rates of the County districts varied from 26·7 in Abram, 23·0 Ince-in-Makerfield, 22·2 Aspull, 21·2 Hindley, and 20·9 Little Lever to 11·8 in Heysham and Bury (R.), 11·6 Garstang (R.), 11·5 Grange, 11·4 Adlington, Fulwood, and Walton-le-Dale, 11·0 Thornton, 10·9 Croston, 10·8 Carnforth, 9·1 Little Woolton, 7·2 Allerton, 7·1 Little Crosby, and Childwall nil.

Infantile Mortality.—The rate for the County was slightly lower than last year, and coincided exactly with the mean of the preceding 10 years. The proportion of infant deaths under the age of one year to 1,000 births was equal to 161 in the County, 167 in urban districts, and 118 in rural districts. These rates bear favourable comparison with the previous year, when the County rate averaged 162 (urban 167 and rural 123). The Registrar-General gives 151 as the rate per 1,000 births for the whole of England and Wales, and 168 for 33 of the large English towns. It is again satisfactory to observe a further decline in the infant death-rates, and it is hoped that some of the improvement may be due to the public becoming better acquainted with the laws of health in respect to the bringing up of young children. The high infant mortality in some of the districts indicates that much has yet to be accomplished before this disgrace to civilisation is removed. A death-rate of 200 out of every 1,000 children born was attained in 16 districts during the year under report, as against 22 in 1900 and 28 in 1899. The highest infant rates occurred in Ince-in-Makerfield 235, Kearsley 228, Abram 225, Farnworth 223, Church 222, Whitefield 220, Padiham 219, Billinge 214, Hindley 213, Swinton and Pendlebury 212, Little Lever and Oswaldtwistle each 209, Gorton 205, Tyldesley-with-Shakerley and Atherton each 201, and Urmston 200. Low rates were recorded in Carnforth 86, Croston 78, Ulverston (R.) 74, Turton and Garstang (R.) each 72, Fulwood 63, Atherton 47, Preesall-with-Hackinsall 23, and Childwall and Little Crosby each nil.

As will be seen in many of the summarised reports, Medical Officers of Health again refer to the infant mortality as due to the widespread ignorance of young mothers in regard to the clothing and feeding of children. Dr. Craig (Church) states that many of the infant deaths—ascribed to diarrhœa and convulsions—are directly due to improper and careless feeding. Personal uncleanness and insanitary surroundings claim much attention, as well as the nursing-out system, entailing, as it does, undue exposure of the delicate bodies of infants to the influence of our varying and more or less rigorous climate, and, as Dr. Smithies (Padiham) remarks, "many of the infants are congenitally weak, this being due very often to the constant employment of the mothers in the mill." As remedial measures it is suggested that in all public elementary schools instruction should be given in relation to the principles of hygiene, especially as applied to infant life, and that the employment of women to visit the homes of the people should be encouraged. In previous reports reference has been made to the good work carried out at Ashton-under-Lyne (B.) by ladies, who are banded together for the purpose of visiting the homes of the poorer classes and giving advice as to the value and necessity of personal hygiene, and practically demonstrating how infants should be washed, clothed, and fed. In this Borough it is pleasing to observe that a depôt for the sale of sterilised milk has also been inaugurated by the Corporation with beneficial results.

The Seven Principal Zymotic Diseases, viz., small-pox, measles, scarlet fever, diphtheria and membranous croup, whooping cough, fever, and diarrhœa, gave rise to 3,801 deaths, or 12·7 per cent. of the deaths from all causes, against a percentage of 12·6 last year, 13·5 in 1899, and 11·4 in 1898. There was a decrease in the total zymotic deaths of 263 as compared with 1900, chiefly due to the diminution of deaths from measles and whooping cough, equal to 525 and 349 respectively. A

marked feature in the zymotic mortality, however, was the additional prominence assumed by diarrhœa and diphtheria. The County rate corresponds exactly with that for last year, while the urban rate declined 0·01 and the rural rate 0·08. Compared with 33 of the large English towns, the zymotic rate per 1,000 of the population was, according to the statistics of the Registrar-General, 0·61 higher, and in the whole of England and Wales 0·02 lower than the rate recorded in this County. The appended tables I. and III. give the zymotic death-rate for each of the County districts, and the following tabulated statement gives the death-rates per 1,000 of the population from the seven principal zymotic diseases :—

	Annual Death-Rate per 1,000.							
	Seven Principal Zymotic diseases.	Small-pox.	Measles.	Scarlet fever.	Diphtheria and Membranous Croup.	Whooping Cough.	"Fever" (Typhoid, Typhus, & Continued Fever).	Diarrhœa.
Administrative County of Lancaster	2·07	nil.	0·18	0·18	0·34	0·20	0·20	0·95
Urban Sanitary Districts	2·17	nil.	0·19	0·18	0·35	0·21	0·21	1·01
Rural Sanitary Districts	1·38	nil.	0·12	0·17	0·29	0·13	0·13	0·52
England and Wales..	2·05	0·01	0·27	0·13	0·27	0·30	0·16	0·91

The zymotic death-rate was most marked in the following districts :—Abram 7·27 (also highest in 1900 with 6·82), Haydock 5·45, Little Lever 5·27, Aspull 5·12, Orrell 4·96, Hindley 4·91, Atherton 4·62, Ince-in-Makerfield 4·59, Whitefield 4·55, Swinton and Pendlebury 3·99, Gorton 3·77, Farnworth 3·61, Blackrod 3·61, Upholland 3·56, Litherland 3·49, Kearsley

3·42, Ashton-in-Makerfield 3·40, &c. The undermentioned districts had low zymotic rates, viz. :—Milnrow 0·60, Heysham 0·59, Grange 0·50, Croston 0·47, Poulton-le-Fylde 0·44, Whitworth 0·41, Garstang (R.) 0·37, Fulwood 0·34, and in Allerton, Childwall, Little Crosby, Little Woolton, Trawden, and Withnell the rates were nil.

The table below gives the death-rates from the principal zymotic diseases for 1901 compared with 10 years, 1891-1900.

Year.	Annual Death-Rate per 1,000.							
	Seven Principal Zymotic diseases.	Small-pox.	Measles.	Scarlet fever.	Diphtheria and Membranous Croup.	Whooping Cough.	"Fever" (Typhoid, Typhus, & Continued Fever).	Diarrhœa.
1891	2·17	...	0·59	0·28	0·15	0·43	0·26	0·44
1892	1·74	0·03	0·26	0·25	0·12	0·45	0·20	0·39
1893	2·85	0·04	0·58	0·32	0·13	0·25	0·28	1·21
1894	1·49	0·02	0·23	0·27	0·12	0·29	0·22	0·32
1895	2·42	0·009	0·50	0·23	0·10	0·38	0·23	0·95
1896	1·94	0·005	0·49	0·24	0·09	0·36	0·23	0·48
1897	2·14	...	0·66	0·15	0·08	0·27	0·19	0·77
1898	1·89	0·0005	0·25	0·10	0·07	0·19	0·26	1·00
1899	2·37	0·0005	0·44	0·18	*0·18	0·26	0·24	1·05
1900	2·07	0·0015	0·43	0·18	0·26	0·37	0·20	0·60
Average 10 years	2·10	0·0106	0·44	0·22	0·13	0·32	0·23	0·72
1901	2·07	nil.	0·18	0·18	0·34	0·20	0·20	0·95

* Membranous Croup included for the first time.

Small-pox.—Only 6 cases of this disease were notified, all of which recovered. They occurred in the following districts :—Blackpool (B.) 4—in April 2 and September 2. All the cases were isolated in the old sanatorium, and recovery

took place without any serious complications. Further extension of disease was no doubt stayed by the prompt and comprehensive precautionary measures taken. The two additional cases of small-pox occurring in the County were referable 1 to Droylsden, notified in May and isolated in hospital (Hyde), and 1—a very doubtful case—notified October 25th, in Ince Blundell (Sefton R.), which was carefully isolated at home.

Measles, after a wide prevalence, which extended over 1899 and 1900, diminished considerably, and was productive of 332 deaths, or 525 fewer than in the previous year. The rate, corresponding to 0·18 per 1,000, was the lowest recorded in the County, and 0·26 less than the mean of the past decade. In urban districts the death-rate from measles averaged 0·19, and in rural districts 0·12. The whole of England and Wales gave a death-rate of 0·27 per 1,000, and 33 of the large English towns 0·43, or exactly the same as last year. In the districts making returns 300 deaths occurred, with the monthly incidence as below :—

1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.	
January ...	20	April	32	July	31	October ...	25
February ..	15	May	10	August ...	18	November.	51
March.....	21	June	22	September.	14	December.	41
	56		64		63		117

In 71 districts there was an absence of fatalities from measles, against 39 districts in 1900. The following districts were marked by the highest death-rates from this disease ;— Much Woolton 1·47, Chadderton 0·96, Farnworth 0·96, Abram 0·94, Whitefield 0·91, Bury (R.) 0·86, Ince-in-Makerfield 0·79, and Blackrod 0·77. It was found necessary to resort to school closure as a precautionary measure against the spread of

measles in 31 districts, or 22 fewer districts than in 1900. Measles is now notifiable in only 6 districts, including the urban district of Thornton, where it became notifiable in March.

Scarlet Fever.—The diminished prevalence of this disease, which during 1899-1900 was very noticeable, has continued during the year under review. Altogether 334 deaths took place out of 8,767 cases notified, against 9,931 cases 356 deaths last year, and 8,205 cases 351 deaths in 1899. The County rate corresponds to 0·18 per 1,000 of the population and does not differ from the rates of the two preceding years, although it was 0·04 below the mean of the 10 years, 1891-1900. In England and Wales the rate from scarlet fever was 0·13, and for 33 large English towns 0·17. The percentage of deaths to cases notified was 3·8 or slightly higher than last year (3·5), but below 1899 with 4·2, and an average of 5·9 for the 10 years 1891-1900. The disease was most prevalent in the following districts, viz.:—

	Cases.	Deaths.	Removals to Hospital.
Accrington (B.)	154	9	0
Ashton-under-Lyne (B.)	252	8	9
Aspull	137	4	0
Blackpool (B.)	271	15	235
Darwen (B.)	231	14	41
Farnworth	196	9	172
Great Harwood	165	9	0
Lancaster (B.)	292	5	124
Leyland	188	6	44
Mossley (B.)	156	8	0
Moss Side	244	6	156
Newton-in-Makerfield	166	2	56
Rawtenstall (B.)	165	6	0
Southport (B.)	230	7	160
Stretford	234	12	127
Swinton and Pendlebury	176	6	36
Withington	245	1	144

It may be observed that four large districts :—Accrington (B.), Great Harwood, Mossley (B.), and Rawtenstall (B.), are without isolation hospitals, and only limited action can be taken to stay the ravages of infectious diseases. Aspull claims to have an arrangement with the County Borough of Wigan, but notwithstanding the presence of 137 cases of scarlet fever, not a single one was removed. Dr. Harrison (Haslingden B.) states that scarlet fever which gave rise to 112 cases, has prevailed epidemically in the borough for the past four years, and as no hospital provision is made, very little can be done to stamp out the disease, and it has simply to exhaust itself for want of fresh susceptible material. Medical Officers of Health of Crompton, Rawtenstall (B.), &c., also specifically refer to the effects on the spread of scarlet fever due to the want of hospital isolation. Dr. Watkins (Newton-in-Makerfield) reports that the abnormal number of infectious cases in his district might be regarded as an object lesson, and, in his opinion, the spread of scarlet fever, with 166 cases and 2 deaths, was mainly due to the absence of hospital provision for isolating the early cases. References are made as to the contraction of disease by school attendance. Dr. Parker (Ince-in-Makerfield) mentions that in May he found 34 children attending the Ince Central Schools with more or less marked desquamation of the skin of the hands, and similar instances were observed at Leigh (B.) and Levenshulme. In consequence of the spread of scarlet fever in schools the latter were closed for varying periods in 20 districts, or double the number of districts adopting school closure in 1900. In one instance (Chorley B.) a magistrate's Order was obtained to enforce the removal of a patient to hospital. At Barton-upon-Irwell (R.) proceedings were taken under Section 126 of the Public Health Act, 1875, for exposing persons suffering from the effects of scarlet fever in a public thoroughfare, viz. :—at a funeral, where a large number of people were congregated; the magistrates imposed a fine of 10s. and costs. It is interesting to observe that at Southport

(B.) legal proceedings were taken against 2 persons, under a local Act passed last year, which prohibits any person either suffering from, or in contact with, infectious disease assisting in any occupation connected with food intended for the use of man, or carrying on any business in such a manner as to be likely to spread infectious disease.

The monthly incidence of cases in the districts which make periodical returns was as follows:—

1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.	
January..	713	April	592	July.....	657	October ...	914
February.	643	May.....	611	August...	530	November.	756
March ...	598	June	662	September	641	December .	713
	1954		1865		1828		2383

Table, page xxiii. shows the annual rate of mortality from scarlet fever for the 10 years, 1891 to 1900, compared with 1901.

Whooping Cough caused 378 deaths—urban districts 347 and 31 rural—or 349 less than in the previous year, and it is pleasing to note that, with the exception of 1898, the number of deaths was the lowest recorded in this County. The death-rate from this disease corresponded to 0·20—urban 0·21, rural 0·13—as compared with 0·37 for the County in 1900—urban 0·39 and rural 0·22. The rate for England and Wales was 0·30, and in 33 large English towns 0·36. In the districts supplying monthly returns the disease proved most fatal in the first quarter with 111 deaths, then in the second quarter with 104 deaths, and least fatal in the third and fourth quarters with 57 and 40 deaths respectively. The deaths were most numerous in Blackpool (B.) 12, Chadderton 11, Garston 12,

Lancaster (B.) 28, Leigh (B.) 13, Middleton (B.) 10, Nelson (B.) 14, Southport (B.) 16, Swinton and Pendlebury 15, and Widnes (B.) 18. Schools were closed on account of whooping cough in Lathom and Burscough, Ramsbottom, St. Annes-on-the-Sea, West Lancashire (R.), and Whiston (R.).

Diphtheria and Membranous Croup.—There has been a great increase in the prevalence of these diseases; of the 3,242 cases notified 636 proved fatal, as compared with 2,182 cases and 525 deaths in the previous year. The County rate was equal to 0·34 per 1,000, being 0·35 in the urban and 0·29 in the rural districts. In 1900 the County rate was 0·26, the same in urban districts, and 0·25 in the rural. For the whole of England and Wales the rate was equal to 0·27, and in 33 large English towns 0·30. The incidence of the disease was most marked in the fourth quarter, same as last year, then the first and least in the third quarter—(See Table V.). Among the County districts the following stand out prominently in respect of cases and deaths from diphtheria, viz.:—Abram, 87 cases 10 deaths; Aspull, 62 cases 19 deaths; Blackpool (B.), 134 cases 33 deaths; Chadderton, 55 cases 13 deaths; Darwen (B.), 207 cases 35 deaths; Eccles (B.), 78 cases 12 deaths; Hindley, 244 cases 23 deaths; Irlam, 50 cases 8 deaths; Lancaster (B.), 134 cases 29 deaths; Mossley (B.), 67 cases 11 deaths; Oswaldtwistle, 30 cases 12 deaths; Prestwich, 73 cases 15 deaths; Radcliffe, 55 cases 16 deaths; Southport (B.), 62 cases 15 deaths; Stretford, 65 cases 19 deaths; Swinton and Pendlebury, 150 cases 26 deaths; Westhoughton, 103 cases 5 deaths; Whitefield, 49 cases 11 deaths; Barton-upon-Irwell (R.), 49 cases 8 deaths; Chorley (R.), 48 cases 9 deaths; Ulverston (R.), 114 cases 4 deaths. In 32 districts no deaths were recorded from either diphtheria or membranous croup. Of the measures taken to prevent the spread of disease may be mentioned school closure, which took place in the following nine districts, viz.:—Abram, Barrowford, Darwen (B.), Irlam, Whitefield, Blackburn (R.), Clitheroe (R.),

Lunesdale (R.), and Ulverston (R.). Hospital isolation was not used as much as it ought to have been in any of the districts, and it is surprising to note that in Abram, Aspull, Chadderton, Hindley, Irlam, Lancaster (B.), Mossley (B.), Oswaldtwistle, Radcliffe, Westhoughton, Whitefield, Chorley (R.), and Ulverston (R.), although the prevalence of diphtheria became so serious, hospital isolation was not resorted to.

Advantage was more extensively taken of bacteriological examinations of throat secretions as aids to medical diagnosis, or in order to determine when the patient could be pronounced free from infection. Authorities in the following districts offered these facilities, viz:—Adlington, Ashton-under-Lyne (B.), Birkdale, Blackpool (B.), Colne (B.), Eccles (B.), Lancaster (B.), Levenshulme, Morecambe, Prescot, Rawtenstall (B.), Stretford, Swinton and Pendlebury, Thornton, Urmston, Withington, Barton-upon-Irwell (R.), and Garstang (R.). Antitoxin was in many districts provided for medical practitioners, free of cost, to be used in suitable cases as a prophylactic and curative agent.

Respecting the causation of diphtheria Dr. Coutts (Blackpool B.) refers to (1) the failure to concrete the sites of houses on a clay foundation, and (2) the dangerously dirty condition of the back streets and passages. As a result of an inquiry held by the Local Government Board in regard to the prevalence of diphtheria at Darwen (B.) the recommendations embraced (a) increased hospital accommodation, (b) improvements in sewerage system and provision for ventilation and flushing where needed, &c., together with the substitution of water closets or slop closets for pail closets, (c) house-to-house inspection of the town for the detection and remedy of nuisances, such as defective house drainage, defective paving of yards, foul closets, uncovered ashpits or ash tubs. The foul sewer emanations are mentioned by several Medical Officers of Health as a fruitful source of diphtheria, and great stress is also laid on the dangers arising from dampness of houses and

surroundings, and also from the sewage pollution of the soil so often associated with unpaved surfaces and general want of cleanliness.

Fever, including typhus, enteric or typhoid and simple or ill-defined forms of continued fever, caused 369 deaths (typhoid 364, continued fever 5, typhus nil), against 409 last year. Although the decrease in deaths—40 in number—was very satisfactory, the County rate, equal to 0·20, remains unaltered as compared with 1900, and 0·03 less than the mean of the past decade. The "fever" rate for the whole of England and Wales averaged 0·16, or 0·04 less than the rate for the County, and the 33 large English towns gave a rate of 0·17 per 1,000.

There were 2,155 cases notified, against 2,285 in the previous year, 2,773 in 1889, and 2,661 in 1898. The proportion of deaths to cases was equal to 17·1 per cent. as compared with 17·8 last year, and an average of 18·3 for the 10 years 1891-1900. The total fever notifications of 227 urban districts throughout England and Wales gave during 1901 a case mortality of 16·4 per cent. The monthly incidence of cases and deaths in the districts making periodical returns was as follows:—

1st Quarter.			2nd Quarter.			3rd Quarter.			4th Quarter.		
	Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.		Cases.	Deaths.
Jan.	124	28	April	67	15	July	80	14	Oct.	350	55
Feb.	67	14	May	95	19	Aug.	272	28	Nov.	218	43
Mar.	88	17	June	76	16	Sept.	380	47	Dec.	157	20
	279	59		238	50		732	89		725	118

In 32 districts there were no deaths from fever, but an unusual prevalence was observed in Abram, 54 cases 10 deaths; Atherton, 50 cases 8 deaths; Farnworth, 51 cases 9 deaths;

Gorton, 84 cases 8 deaths; Hindley, 65 cases 8 deaths; Leigh (B.), 34 cases 8 deaths; Little Lever, 17 cases 9 deaths; Radcliffe, 34 cases, 8 deaths; Swinton and Pendlebury, 78 cases 16 deaths; and Widnes (B.), 111 cases 17 deaths.

In the reports received from Adlington, Atherton, Farnworth, Gorton, and Tyldesley-with-Shakerley, there are references to the privy midden system as responsible for the recurrent epidemics of typhoid fever. The danger of infection from such a source cannot be overlooked, and equally dangerous are the unpaved back streets and yards, which readily become fouled with excremental filth during the process of scavenging. Impure water was suspected as the cause of typhoid fever in cases which occurred at Littleborough, Rainford, Turton, Walton-le-Dale, &c. Dr. Smith (Rawtenstall B.) draws attention to an important communication by Professor Clifford Allbutt on the infectiousness of the urine of typhoid patients, from which it would seem that the urine retains the power of infection for weeks after the patient is convalescent and after all bacilli are absent from the motions. The disinfection of urine for say six weeks after convalescence from typhoid fever is therefore recommended.

It is pleasing to observe that in Adlington, Birkdale, Blackpool (B.), Colne (B.), Eccles (B.), Rawtenstall (B.), Stretford, Swinton and Pendlebury, Thornton, Urmston, Withington, Barton-upon-Irwell (R.), and Garstang (R.), facilities are offered to medical men for the application of Widal's test by competent bacteriologists.

Diarrhœa now includes deaths certified as from diarrhœa alone or in combination with some other cause of ill-defined nature, and also deaths certified as from epidemic enteritis, zymotic enteritis, epidemic diarrhœa (summer diarrhœa), dysentery and dysenteric diarrhœa, and choleraic diarrhœa in the absence of Asiatic cholera. The total deaths embraced

under the head of diarrhœa, amounting to 1,752, were unusually numerous, and exceeded by 565 the deaths recorded in the previous year. The rate for the County was equal to 0·95 (urban 1·01, rural 0·52) against 0·60 (urban 0·65, rural 0·27) for 1900, and a mean of 0·72 for the past decade. The whole of England and Wales gave a rate of 0·91, and 33 large English towns 1·23 ; in both instances a great increase as compared with 1900. The comparative diarrhœa death-rates for the years 1894-1901 are given in the table below :—

	1901	1900	1899	1898	1897	1896	1895	1894
Administrative County	0·95	0·60	1·05	1·00	0·77	0·48	0·95	0·32
Urban Districts	1·01	0·65	1·12	1·06	0·80	0·52	1·04	0·35
Rural Districts.....	0·52	0·27	0·53	0·55	0·56	0·28	0·44	0·16
England and Wales....	0·91	0·69	0·98	0·96	0·86	0·55	0·88	0·34
33 Large English Towns.....	1·23	0·94	1·21	1·22	1·24	0·79	1·19	0·50

From the following table, showing the monthly incidence of deaths in districts supplying returns, it will be seen that there was an enormous increase of infantile mortality during the third quarter, when the temperature of the soil at a depth of four feet reached 56 degrees Fahr. or higher. It may be also mentioned that according to the observations taken at Stonyhurst College the adopted mean temperature during this quarter exceeded the mean of the last 54 years, and during the latter period no month has had a mean temperature as high as July, 1901. The deaths in the third quarter were almost double the number of the corresponding quarter of last year, the first quarter was exactly the same, and the second and fourth quarters showed reductions. Sixty-six per cent. of the total deaths occurred in August and September.

1st Quarter.		2nd Quarter.		3rd Quarter.		4th Quarter.	
January ...	15	April	19	July 286		October ...105	
February ..	17	May.....	20	August.....730		November.	27
March	28	June	32	September.395		December.	17
	60		71		1411		149

The highest diarrhœa rates were recorded in Atherton 3·63, Haydock 3·12, Orrell 2·94, Hindley 2·87, Gorton 2·85, Golborne 2·71, Ashton-in-Makerfield 2·60, Ince-in-Makerfield 2·57, Church 2·46, Abram 2·37, Blackrod 2·32, Pemberton 2·26, Little Lever 2·14, Billinge 2·12, Leigh (B.) 2·09, Litherland 2·07, Standish-with-Langtree 1·89, Tyldesley-with-Shakerley 1·70, and Aspull 1·66. The production of "zymotic diarrhœa" by improper feeding of infants has already been referred to under the head of infantile mortality. The opinion of many of the district medical officers of health seems to be that bad nursing, careless feeding, and want of personal cleanliness are more in fault in regard to the rearing of infants than is the sanitary administration of public authorities. Dr. Martin (Gorton) believes that the common house-fly influences largely the distribution of diarrhœa. He says that "each succeeding year confirms my observation in 1898 that the annual epidemic of diarrhœa and of typhoid fever is connected with the appearance of the common house-fly, which becomes very numerous at the beginning of July, and breed chiefly in privy middens. The increase and decrease of the annual diarrhœa and typhoid fever epidemic can be foretold with a great degree of accuracy, an increase in the diarrhœa cases occurring in one week, and typhoid notifications in three to four weeks after an increase in the number of flies is observed. The annual epidemic of these two diseases begins and ends with the appearance and disappearance of the domestic fly."

Epidemic Influenza caused 231 deaths, or 570 less than in 1900, when the maximum mortality from this disease was attained. In 1899 there were 489 deaths, 268 in 1898, and 337 in 1897. The fatalities were most numerous during March and April, when 43 and 54 respectively took place, while only 5 deaths took place during each of the months of August and September. The deaths exceeded the average in Chorley (B.) 15, Accrington (B.), Rawtenstall (B.), and Withington 10 each, Dalton-in-Furness 8, Heywood (B.) and West Lancashire (R.) 6 each.

Respiratory Diseases, comprising bronchitis, pneumonia, and pleurisy, contributed 5,307 deaths, or 17·8 per cent. of the total mortality, as compared with 6,727 deaths, equivalent to 19·9 per cent. of the total deaths recorded in the previous year. The rates per 1,000 are given below :—

	1901.	1900.	1899.
Urban Districts	2·98	3·53	3·52
Rural Districts	2·32	2·72	2·53
Administrative County	2·90	3·43	3·39

The highest respiratory rates were attained in the following districts, viz. :—Ince-in-Makerfield 5·53, Abram 4·90, Little Lever 4·88, Skelmersdale 4·56, Hindley 4·48, Aspull and Wardle each 4·29, Ormskirk 4·22, Tyldesley-with-Shakerley 4·19, Westhoughton 4·15, and Blackrod 4·12.

Heart disease accounted for 2,336 deaths, or 275 less than in 1900, and gave a rate corresponding to 1·27 per 1,000 of the population, or 0·01 higher than the mean for the 10 years 1891-1900.

Tuberculous Phthisis gave rise to 1,785 deaths, or 247 less than in 1900. The rates per 1,000 are as follow:—

	1901.	1900.	1899.
Urban Districts	1·00	1·06	1·20
Rural Districts	0·79	0·84	1·09
Administrative County.....	0·97	1·03	1·19

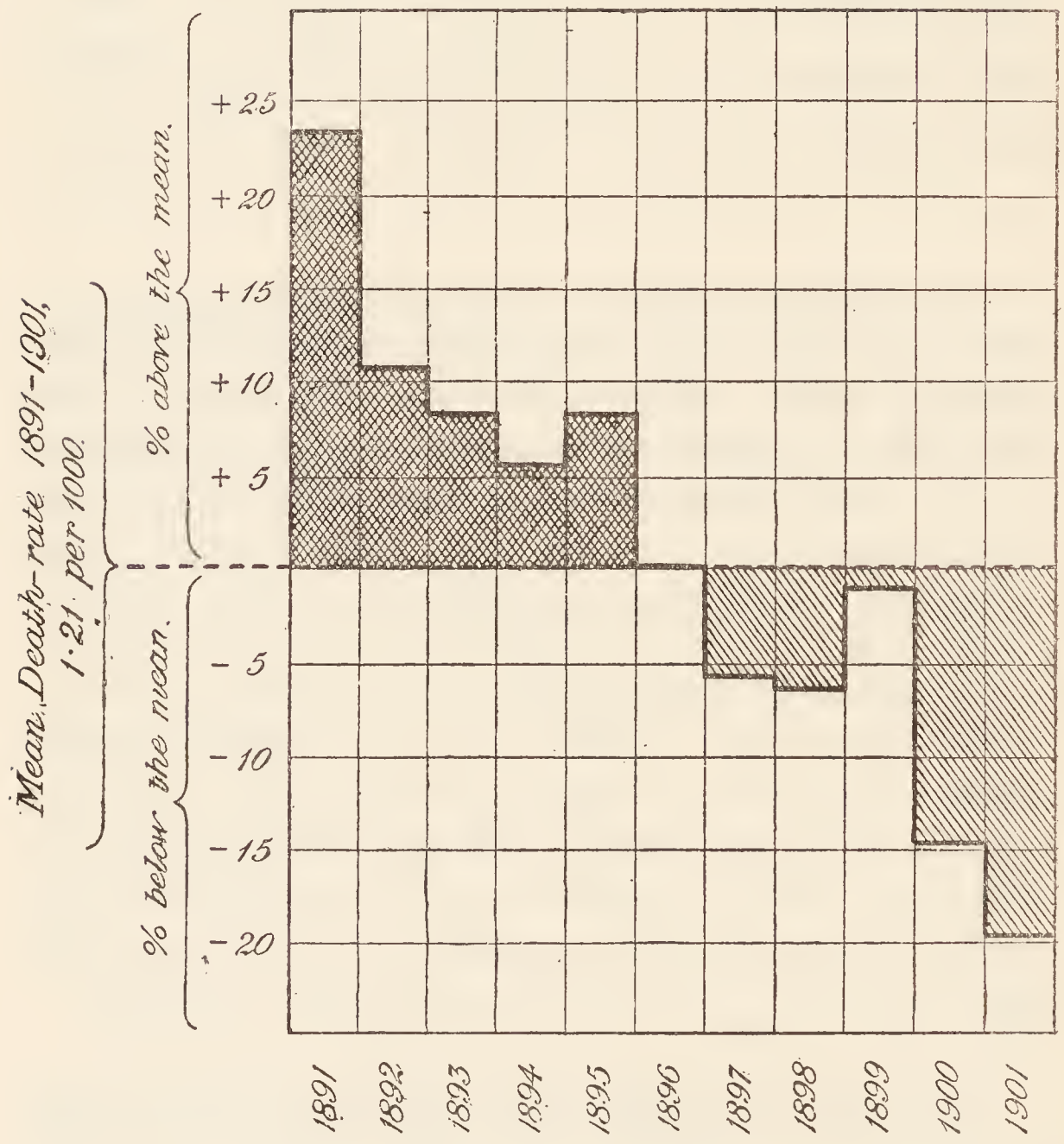
It is gratifying to observe a further decline in the prevalence of phthisis. The County rate, equal to 0·97, was the lowest on record, and 0·27 below the mean of the 10 years 1891-1900. As pointed out in previous reports the diminution of tuberculous phthisis which has been so noticeable in this County during recent years has been shared in by the whole of England and Wales, and possibly the increased attention paid to sanitation may have exerted some beneficial influence on the fatalities from this disease. It is gratifying to observe that according to Dr. Tatham the age of maximum phthisis mortality has also been postponed in both sexes, "either the saving of life has been greater at the ages which were formerly most liable to phthisis than at the ages immediately following, or persons specially liable to phthisis have lived somewhat longer than they would have done under earlier conditions."

The deaths from other forms of tuberculosis, now included in the statistics received from district medical officers of health, numbered 962, which, together with tubercular phthisis, amounted to 2,747, or equal to a rate of 1·50 per 1,000 of the population.

In the following districts the phthisis rates were much above the average, viz.:—Heywood (B.) 2·12, Heysham

2·07, Hurst 1·95, Reddish 1·93, Middleton (B.) 1·90, Ashton-under-Lyne (B.) 1·79, Little Crosby 1·77, Whitworth 1·77, Denton 1·73, Littleborough 1·70, Church and Milnrow each 1·69.

The Diagram below shows the County deaths from phthisis since 1891 in relation to the mean of the period 1891-1901 :—



It is satisfactory to observe that many Authorities have invited medical practitioners to notify cases of phthisis. The following may be mentioned :—Eccles (B.), Leigh (B.), Moss Side, Much Woolton, Southport (B.), Stretford, Tottington, Ulverston, Waterloo-with-Seaforth, Garstang (R.), &c. This action is quite in accord with the following recommendation

adopted by the British Congress on Tuberculosis, held in London in July last:—"That the voluntary notification of phthisis attended with tuberculous expectoration, and the increased preventive action which it has rendered practicable, has been attended by a promising measure of success, and that the extension of notification should be encouraged in all districts in which efficient sanitary administration renders it possible to adopt the consequential measures." In an increasing number of districts within the Administrative County disinfection is carried out after phthisis, and there is also a more general disposition on the part of Authorities to assist medical diagnoses by examinations of the sputa undertaken by the bacteriologist at the public expense.

Although much has been done to diminish the prevalence of phthisis much remains to be done for the protection of communities and the prologation of human life. Dr. Hayward (Haydock) says in a recent paper on the mortality from phthisis that "the one striking and outstanding fact which cannot be emphasised more than by the mere statement of it is, that if phthisis had not existed as a cause of mortality in England and Wales every person living in the year 1891 would have had an average in life-capital of two years, and that the abolition of all other tubercular diseases would only have increased the average life-capital by the fifth of a year. Now years of human life are capable of being translated into terms of pounds shillings and pence, and it is evident that the ravages of phthisis must entail a very serious financial loss to the community."

It is becoming generally recognised that the lives of those who are stricken with phthisis can be saved by what is known as the "open-air" treatment, and if so, surely it is the duty of sanitary authorities either alone or in combination to make such provision. In Germany, France, and other parts of the Continent sanatoria are in active and

successful operation, while in England the somewhat limited efforts have hitherto been mainly confined to Poor Law Authorities and private enterprise. In my opinion this work is peculiarly fitted for County Councils to carry out, and there is reason to hope that Lancashire will set an example, soon to be followed by other counties. A cottage sanatorium formed on the plan adopted at Adirondack (New York State) would prove the most economical. The establishment might well consist of a colony of small wooden cottages or châlets, simply but comfortably furnished, with a central permanent pavilion—capable of extension—for administrative and other purposes. The first instalment would act as a nucleus, and if proved successful, further accommodation could be added to piecemeal. The cottage sanatorium at Adirondack, was originally built to accommodate nine patients, but now has beds for ninety-four. It consists of twenty-two different buildings from 75 to 100 feet apart, grouped round a large main structure on three floors. The weekly charge per patient is 20s. to all alike, the deficiency, about 8s., being covered by subscriptions and contributions. The cost per bed need not exceed £150 to £300, but this will vary as in the case of isolation hospitals according to the number of beds to be provided, and the character of land and buildings. Small sanatoria proportionately cost more than larger ones, as the administrative buildings for a small number of patients are nearly as costly as those for twice or three times as many.

The measure of success in the open air treatment of phthisical patients depends on the earliness or otherwise of the diagnosis. The comparative certainty of cure in early stages of the disease being of a most encouraging character. It has been said by an eminent physician that a week or month lost in relation to the determination of phthisis may require to be multiplied many times in relation to the treatment.

Infectious Disease Notification.—There were altogether 16,724 cases notified, showing a decrease of 377 as

compared with the previous year. From the following table, giving particulars of the notified cases, it will be seen that there was a great diminution of scarlet fever cases, and an increased prevalence of diphtheria and membranous croup. The reduction of measles was in a measure owing to the disease ceasing to be notified in Lancaster (B.) :—

Diseases.	1901.			1900.		
	Urban Sanitary District.	Rural Sanitary District.	Total.	Urban Sanitary District.	Rural Sanitary District.	Total.
Small-pox.....	5	1	6	58	1	59
Scarlet Fever ...	7916	851	8767	9072	859	9931
Diphtheria	2564	435	2999	1808	199	2007
Croup	218	25	243	160	15	175
Typhus Fever ...	...	...	...	22	...	22
Typhoid Fever...	1924	170	2094	1974	209	2183
Continued Fever.	60	1	61	74	6	80
Puerperal Fever.	135	19	154	123	11	134
Erysipelas	1170	149	1319	1132	140	1272
Measles	1052	22	1074	926	303	1229
Whooping Cough	...	...	...	...	...	...
Chicken Pox.....	...	...	...	...	...	...
Rötheln	5	...	5	...	...	...
Relapsing Fever.	2	...	2	4	2	6
English Cholera..	...	...	...	1	...	1
Diarrhœa		...	...	...	...	...
Not classified ...	...	...	...	2	...	2
Total	15051	1673	16724	15356	1745	17101

From the commencement of 1902 measles and whooping cough will become notifiable in Southport (B.), while the Medical Officers of Health for Droylsden and Stretford recommend the removal of measles from the list of notifiable diseases. Dr. Heslop (Stretford) believes that "the period has now arrived when measles should be removed from the schedule of notifiable diseases, as the time thus occupied by the staff in dealing with these cases could be better utilised by them in their other sanitary duties." For the use of those

Authorities desirous of gaining information on this subject, it may be mentioned that measles is notifiable in the following six districts within the Administrative County, viz.:—Blackpool (B.), Droylsden, Standish-with-Langtree, Stretford, Thornton, and Lunesdale (R.). Dr. Gellatly (Droylsden), however, reports that the Order placing measles on the list of notifiable diseases expires shortly, and he cannot advise the Council to renew the Order, as the benefit derived is so limited. Much difference of opinion exists as to the desirability of notifying erysipelas, but the Medical Officer of Health of the Fylde (R.) says that he has been enabled by the information afforded to trace many "dirty and insanitary conditions."

Isolation Hospitals.—The position of the County districts in respect of hospital accommodation is given in Table (A) appended. Much progress has been made by Local Authorities and Hospital Committees towards the completion of the schemes they have in hand. The present condition of the districts combined by the County Council under the provisions of the Isolation Hospitals Act, 1893, is given below:—

District	Date of Order.	Progress made towards Hospital Provision.
Chadderton Crompton Royton	Aug. 2, 1894	Small-pox accommodation for 12 patients. £5,150 borrowed from County Council. No provision for treatment of ordinary infectious diseases.
Radcliffe Ramsbottom Tottington Whitefield Bury (R.)	Aug. 5, 1897	Land secured at a cost of £4,500, and plans prepared. An unnecessary delay is now taking place
Preston (R) Fulwood Longridge	Nov. 7, 1895	Land secured and plans prepared. Local Government Board sanction obtained to the borrowing of £15,900 for buildings.

District.	Date of Order.	Progress made towards Hospital Provision.
Fleetwood Kirkham Lytham St. Annes-on-the-Sea Poulton-le-Fylde Thornton Fylde (R.)	Nov. 7, 1895	Hospital erected at Moss Side (Fylde R.); 30 beds. Opened for the reception of patients, 14th April, 1902. Money expended on buildings, &c., £15,930.
Fylde Preston Garstang (Urban & Rural Districts)	Nov. 7, 1895	Hospital in course of erection at Elswick for the isolation of Small-pox patients. Sanction to borrow £18,000 for buildings.
Horwich Westhoughton Blackrod	Nov. 2, 1899	Land secured, plans passed, and sanction obtained to borrow £16,000.
Littleborough Milnrow Wardle	Feb. 1, 1900	Land secured and plans prepared. Sanction asked for to borrow £11,500 for buildings.

During the year (April 27th) the hospital erected at Heath Charnock under a Local Government Board Order, for the districts of Chorley (B.), Adlington, Leyland, and Chorley (R.) was opened for the reception of patients, and has since been in active operation. The total cost of the hospital amounted to £17,000, and the number of beds provided 36. The districts of Dalton-in-Furness, Ulverston, and Ulverston (R.), acquired, April 1st, 1899, the isolation hospital belonging to the Ulverston Poor Law Authority, and during the past year it has proved so useful that further extension is contemplated. As an instance of progress made towards hospital provision may be mentioned the scheme being carried out at Baguley, for the treatment of infectious diseases other than small-pox by Withington, subsequently associated with Levenshulme and Moss Side. Accommodation is being provided for 100 beds, at a cost of £65,000.

The following table gives the position of the County districts as to hospital accommodation :—

	Boroughs.	Urban Sanitary Districts.	Rural Sanitary Districts.	Total.	Estimated Population.	Acreage (per Census Return)
Districts with Hospitals	9	23	7	39	729035	437566
Districts with Small-pox Hospitals only...	4	7	1	12	219591	59815
Districts with Hospital Schemes in progress	2	22	4	28	301345	243243
Districts claiming the privilege of sending patients to Hospitals in other Districts	3	33	3	39	471944	177911
Districts without Hospital accommodation	1	13	4	18	106840	174390
Total	19	98	19	136	1828755	1092925

In the 39 districts provided with hospital accommodation 6,626 cases of infectious disease were notified, and 1,847, or 27·8 per cent., received hospital isolation, as compared with 30·0 per cent. in the previous year. The total number of scarlet fever cases notified in these districts amounted to 3,356 and 1,346, or 40·1 per cent., were removed against 39·8 per cent. last year, 35·2 in 1899, 36·5 in 1898, and 37·6 in 1897. Of the scarlet fever patients 40 died in hospital, equal to a case mortality of 2·9 per cent. as compared with 2·6 per cent. last year, 5·1 per cent. in 1899, and 4·5 per cent. in 1898. The case mortality of all other scarlet fever notifications was equal to 3·9 per cent. In the districts claiming the privilege of sending cases to hospitals in other districts 5,110 cases of infectious disease were notified, and 1,214, or 23·7 per cent., of removals took place against 18·1 per cent. last year, 16·9 in 1899, 17·6 in 1898, and 10·6 in 1897. In six of the districts with outside hospital accommodation not a single case was removed, and in

TABLE (A).

HOSPITAL PROVISION IN VARIOUS DISTRICTS OF THE ADMINISTRATIVE COUNTY.

(PARTICULARS TAKEN FROM THE HEALTH REPORTS FOR THE YEAR 1901.)

Districts with Hospitals.	Districts with Small-pox Hospitals only.	Districts with Hospital Schemes in progress.	Districts claiming the Privilege of sending Patients to Hospitals as printed in parentheses.	Districts without Hospital Accommodation.
URBAN.	URBAN.		URBAN.	URBAN.
Ashton-in-Makerfield.	*Accrington B.	Preston R. — Joint for Infectious Diseases. — Joint for Small-pox.	*Allerton (Liverpool).	Carnforth.
Ashton-under-Lyne B.	*Chadderton — Joint.	Fulwood. — Joint for Infectious Diseases. — Joint for Small-pox.	*Aspull (Wigan).	Church.
*Billinge (Cottage).	*Crompton. — Joint.	Longridge. — Joint for Infectious Diseases. — Joint for Small-pox.	Audenshaw (Hyde).	Clayton-le-Moors.
Birkdale.	*Royton — Joint.	Garstang R. — Joint for Infectious Diseases. — Joint for Small-pox.	*†Bacup B. (Sourhall, Todmorden).	Clitheroe B.
§Blackpool B.	*Haslingden B.	Preesall-with-Hackinsall. — Joint for Infectious Diseases. — Joint for Small-pox.	*†Barrowford (Nelson).	Croston.
Darwen B.	‡Hindley.	||Fleetwood. — Joint for Infectious Diseases. — Joint for Small-pox.	*Childwall (Liverpool).	Grange.
Garston.	*Mossley B.	Kirkham. — Joint for Infectious Diseases. — Joint for Small-pox.	Denton (Hyde).	Great Harwood.
*Heywood B.	*Oswaldtwistle.	Lytham. — Joint for Infectious Diseases. — Joint for Small-pox.	Droylsden (Hyde).	Little Crosby.
Ince-in-Makerfield.	*Rawtenstall B.	St. Annes-on-the-Sea. — Joint for Infectious Diseases. — Joint for Small-pox.	Eccles B. (Salford).	Norden.
Lancaster B.	*Standish-with-Langtree (Cottage).	Poulton-le-Fylde. — Joint for Infectious Diseases. — Joint for Small-pox.	Failsworth (Oldham).	Orrell.
Morecambe.	*Whitworth (Cottage).	Thornton. — Joint for Infectious Diseases. — Joint for Small-pox.	Gorton (Stockport).	Rishton.
Ormskirk.		Fylde R. — Joint for Infectious Diseases. — Joint for Small-pox.	Great Crosby (Bootle).	Trawden.
Pemberton.	RURAL.	Radcliffe. — Joint for Infectious Diseases including Small-pox.	Haydock (St. Helens).	Upholland.
Rainford (Cottage).	*Wigan (Cottage).	Ramsbottom. — Joint for Infectious Diseases including Small-pox.	Heaton Norris (Salford).	Withnell.
*Skelmersdale (Cottage).		Tottington. — Joint for Infectious Diseases including Small-pox.	Hurst (Ashton-under-Lyne).	
Southport B.		Whitefield. — Joint for Infectious Diseases including Small-pox.	Huyton-with-Roby (Whiston R.).	RURAL
Walton-le-Dale (Cottage).		Bury R. — Joint for Infectious Diseases including Small-pox.	Irlam (Salford).	
Widnes B.		¶Horwich. — Joint.	Kearsley (Salford).	Blackburn.
Atherton. — Joint. (Astley.)		Westhoughton. — Joint.	Lathom and Burscough (West Lancashire R.).	Clitheroe.
*Golborne. — Joint. (Astley.)		Blackrod. — Joint.	*Lees (Oldham).	Limehurst.
Leigh B. — Joint. (Astley.)		Littleborough. — Joint.	Levenshulme (Hyde).	Lunesdale.
Tyldesley. — Joint. (Astley.)		Milnrow. — Joint.	Litherland (Bootle).	
Leigh R. — Joint. (Astley.)		Wardle. — Joint.	Little Woolton (Whiston R.).	
Farnworth. — Joint.		Abram.	Middleton B. (Rochdale).	
Little Hulton. — Joint.		Colne B. — Joint.	Moss Side (Manchester).	
Little Lever. — Joint.		¶Nelson B. — Joint.	Much Woolton (Whiston R.).	
Adlington. — Joint.		Heysham.	Newton-in-Makerfield (Warrington).	
Chorley B. — Joint.		*a*Withington.	Prescot (Whiston R.).	
Leyland. — Joint.			Prestwich (Salford).	
Chorley R. — Joint.			Reddish (Stockport).	
Dalton-in-Furness. — Joint.			Stretford (Salford).	
Ulverston. — Joint.			Swinton and Pendlebury (Salford).	
Ulverston R. — Joint.			Turton (Bolton).	
West Lancashire R.			Urmston (Salford).	
Brierfield. — Joint with Burnley. County Borough.			Waterloo-with-Seaforth (Bootle).	
Padiham. — Joint with Burnley. County Borough.			Worsley (Salford).	
Burnley R. — Joint with Burnley. County Borough.			RURAL.	
RURAL.			Barton-upon-Irwell (Salford).	
Sefton (Cottage).			Lancaster (Lancaster B.).	
Whiston.			Warrington (Warrington B.).	
(39)	(12)	(28)	(39)	(18)

* Not used during the year. † Reserved for small-pox only. ‡ Used for 7 cases of typhoid fever. || Port Hospital already provided.
¶ Accommodation for small-pox already provided. § Combined with Fylde, Preston, and Garstang for small-pox purposes. *a* Cases now sent to Manchester hospital completed.

13 others the removals varied from 1 to 7. The proportion of scarlet fever cases treated in hospital was greatest in Morecambe 94 per cent., Chorley (B) 88 per cent., Farnworth 87 per cent., Blackpool (B) 86 per cent., Tyldesley-with-Shakerley 71 per cent., Southport (B.) 69 per cent., and Leigh (B.) 59 per cent.

Disinfection.—Steam disinfecting appliances are now available in 28 districts ; 11 Authorities carry out their disinfection at the isolation hospitals with which they are associated ; and 6 take advantage of arrangements entered into with neighbouring County Boroughs. Dry heat apparatus (Frazer's) is still used in 15 districts, and 76 have no proper appliances. At Mossley (B.) a Delépine-Thresh disinfector has just commenced work, and super-heated steam apparatus will shortly come into operation in Middleton (B.), Moss Side, and Nelson (B.). At Garston the present hot air chamber will shortly be replaced by steam apparatus. Medical Officers of Health of the following districts emphasise the importance of efficient disinfecting appliances, viz. :—Barrowford, Denton, Fulwood, Leigh (B.), Litherland, Padiham, and Lancaster (R.). In the latter portable apparatus is recommended. Much attention has been paid to the fumigation of houses, workshops, &c., after the occurrence of infectious disease, and it is now becoming the custom to thoroughly disinfect and cleanse the public elementary schools in case of closure.

Sanitary Administration.—Particulars are given in the summarised reports as to the work carried out by the sanitary officials in the various districts ; throughout the County 31,221 nuisances have been abated after the service of 25,508 notices, and legal proceedings had to be taken in 61 cases, as compared with 190 in the previous year. In many of the districts complaints are frequently made as to the remissness of the Local Authorities in removing public nuisances, for instance, in how many districts does the extremely dangerous

privy midden system exists; how many are free from complaint as to the unpaved or unscavenged condition of the back streets; and how often are the Acts of Parliament relating to the housing of the working classes entirely ignored? It is satisfactory to note that there has been an improvement in the sanitary condition of Clifton (Barton-upon-Irwell R.), which the Medical Officer of Health attributes to street formations and the other means taken "to remedy the pre-existing contamination of the soil."

Housing of the Working Classes.—In 34 districts action is reported with regard to insanitary property, and 409 houses were closed as unfit for habitation. The most important scheme for dealing with a large insanitary area was carried out in Eccles (B.). The Council obtained the sanction of the Local Government Board subsequent to an Inquiry held on the 13th of November for clearing an area equal to about 19,150 square yards, on which are erected 72 occupied houses, 28 unoccupied houses, 22 shops (also used as dwellings), 5 lock-up shops, 5 beerhouses, and 8 nondescript buildings. In the other districts of the County the action taken by the Authorities for improving working class dwellings has been carried out in too niggardly a manner to have much effect on the health or comfort of the inhabitants. In Stretford, however, action is going to be taken to provide 112 semi-detached workmen's dwellings "to alleviate the overcrowding of Stretford and Longford Wards." As the connection between the housing of the people and the propagation of phthisis and other diseases becomes more and more recognised, it is hoped that less apathy will be shown by Local Authorities in respect of so vital a question.

Canal Boats Acts have been enforced in those districts through which canals pass. In the local reports references are made to 1,093 boats examined, and 25 infringements of the Acts. The most numerous inspections of canal boats took place in Abram 71, Eccles (B.) 62, Ince-in-Makerfield 66, Lancaster (B.) 50, Leigh (B.) 109, Littleborough 46, Middleton

(B.) 45, Widnes (B.) 79, Bury (R.) 47, Garstang (R.) 41, Preston (R.) 40, Warrington (R.) 35, and West Lancashire (R.) 42.

Slaughter-houses. — Abattoirs are now provided at Accrington (B.) (too small), Blackpool (B.), Chorley (B.), Clitheroe (B.), Colne (B.), Lancaster (B.), Moss Side, and Southport (B.). The provision of public slaughter-houses is under consideration at Great Harwood, Lytham, St. Annes-on-the-Sea, Haslingden (B.), Heywood (B.), Leigh (B.), &c. The difficulty, if not impossibility, of carrying out efficient inspection of meat in private slaughter-houses ought to induce Local Authorities to limit the issue of licenses for the slaughtering of animals in these places pending the provision of accommodation more in conformity with sanitary requirements. Information is given in the summarised reports of the seizures of food unfit for human consumption, and subsequent legal proceedings.

References will also be found regarding the condition of bakehouses, lodging-houses, &c. Under the Factory and Workshop Act, 1901, bakehouses are either factories or workshops, within the meaning of the Act, according as mechanical power is or is not used in aid of the process carried on. They are, therefore, subject to the general provisions of the Act, and the same powers will be exercised by District Councils in regard to bakehouses that are exercised by them in regard to factories and workshops.

Dairies, Cowsheds, and Milkshops.—The number of districts in which regulations under the Order of the Local Government Board are operative have been increased to 101 by the inclusion of Accrington (B.), Lancaster (B.), Lytham, Prescot, Rainford, Withnell, and Worsley. Of the 35 districts without dairy and cowshed regulations 5 are rural, viz.:—Chorley, Garstang, Lunesdale, Whiston, and Wigan. The Authorities of these great milk producing districts have

been, to say the least, unusually remiss in neglecting to adopt regulations for securing the health of the cows and consequent purity of the milk supply. Municipalities in order to guard themselves against the introduction of diseased milk are now accustomed to get power, by Local Acts of Parliament, to take action in case infectious disease broke out among persons engaged outside their boundaries on premises from which the borough milk is obtained. During the year the County Boroughs of Barrow-in-Furness, Bolton, Bury, and Blackburn, and the Non-County Boroughs of Blackpool and Eccles secured such powers. Even in districts where regulations are adopted, the farms are frequently without any surveillance from the Local Authorities, and the conduct of the dairy operations from a health point of view cannot be regarded with satisfaction. It is not easy to find a shippon without some serious defect, and I regret to say that the shippons in rural districts are, as a rule, worse than those under urban administration. Rural Authorities too often adopt the mistaken policy of non-interference with cowkeepers, and appear to be quite indifferent to the danger incurred by the milk consuming public outside their area. To save the expenditure of a few pounds, filthy, overcrowded, badly-ventilated and generally insanitary shippons, not infrequently stocked with tuberculous cows, are allowed to remain, and many Authorities even discourage the efforts towards improvement made by their officials. Inadequacy of supervision would be best provided against by entrusting County Councils with the duty of inspection. By such a course there would be more likelihood of efficiency and greater uniformity would be secured than is possible under the existing régime.

Smoke Nuisance.—The Authorities in whose districts smoke observations have been taken number 53 as compared with 39 in the previous year. Of the 1,299 observations 52 resulted in legal proceedings, only 3 being dismissed. The great reduction of observations, (561) as compared with 1900, was

owing to Ashton-under-Lyne (B.)—accustomed in previous years to report over 400 observations—entirely ceasing to take action. Additional interest in regard to the question of black smoke was taken in Swinton and Pendlebury, Darwen (B.), Stretford, Middleton (B.), and Lancaster (B.) as will be seen by the following table :—

DISTRICTS.	No of Smoke Observations.	Time limit per hour—Minutes.	No. of Legal Proceedings.	Remarks on action taken.
Accrington (Boro)	22	8	..	
Billinge	4	..	..	
Birkdale	5	..	..	
Blackpool (Boro)	14	5	4	2 fined £1 and costs, 1 fined 10s. and costs, and one 1s. and costs.
Chorley (Boro)	Not taken regularly	2	..	
Church	20	8	..	
Clayton-le-Moors	Several	..	..	
Clitheroe (Boro)	12	..	..	
Colne (Boro)	6	..	..	
Darwen (Boro)	129	10	13	Orders to abate obtained in each case.
Eccles (Boro)	30	4	2	Orders to abate obtained.
Failsworth	44	8	..	Time limit exceeded on 8 occasions, offenders warned.
Farnworth	1	7½	..	
Fleetwood	Daily	10	..	
Fulwood	Frequent	..	..	
Garston	38	7	2	Owners of 2 river steamers fined 20s. and costs.
Golborne	4	..	..	
Gorton	13	16	2	1 fined £2 and costs and 1 dismissed.
Great Crosby	Numerous	..	1	Nuisance abated. Summons withdrawn.
Great Harwood	30	10	..	
Heaton Norris	7	..	..	
Heywood (Boro)	30	..	..	
Horwich	10	15	..	
Lancaster (Boro)	99	3	..	
Lees	Several	..	..	
Leigh (Boro)	30	12	..	
Levenshulme	6	10	..	
Litherland	Frequent	..	3	Fines inflicted in each case.
Littleborough	40	8	2	Both dismissed.
Middleton (Boro)	105	10	10	2 ordered to abate and pay costs, 7 fined 10s. each, and 1 20s. and costs.
Milnrow	45	8	..	

DISTRICTS (Continued).	No. of Smoke Observations.	Time limit per hour—Minutes.	No. of Legal Proceedings.	Remarks on action taken.
Moss Side	Taken weekly	6	..	
Much Woolton	50	3	..	
Norden	Few	..	..	
Padiham	43	6	..	
Pemberton	Frequent	..	..	Notice served in 1 case.
Prestwich	42	5	..	
Radcliffe	76	10	..	
Ramsbottom	6	12	..	
Royton	4	..	4	Fines of 5s. inflicted in each case.
Southport (Boro)	6	..	..	Time limit exceeded on 4 occasions.
Stretford	116	4	7	1 fined £5 and costs, 2 adjourned and others pending.
Swinton and Pendlebury	156	5	..	
Thornton	Constantly	..	..	
Tottington	12	12	..	
Turton	1	12	..	
Tyldesley-with-Shakerley	Few	..	..	
Waterloo-with-Seaforth	8	..	..	
Whitefield	4	10	..	
Withington	2	..	1	Fined 25s., including costs.
Withnell	2	3	..	
Barton-upon-Irwell (R.)	7	4	1	Orders to abate obtained.
Bury (R.)	19	..	..	
Warrington (R.)	1	..	..	Nuisance abated.
Total	1299	..	52	

Scavenging and Refuse Removal.—Medical Officers of Health report that the scavenging is "satisfactory" in 111 districts, "fair" in 11 districts, and "not satisfactory" in 14 districts. The latter include several rural districts, and the urban districts of Leigh (B.), Droylsden, Irlam, Rainford, Thornton, Tottington, Walton-le-Dale, and Westhoughton. The work of scavenging is performed by the Authorities in 94 districts, in 7 districts it is partly contracted for, and in 26 districts it is wholly carried out by contract. In 9 districts the sanitary officials complain as to the entire want of any system of scavenging beyond what is done by tenants or owners of property. Destructors have been called

to the aid of Accrington (B.), Atherton, Morecambe, Rawtenstall (B.), and Southport (B.), and the operations so far have given satisfaction. These appliances for consuming refuse are in course of erection at Chorley (B.), and Moss Side, and references as to their need are contained in the reports received from Crompton, Failsworth, Gorton, Heysham, Horwich, Levenshulme, Ramsbottom, Swinton and Pendlebury, and Worsley.

Local Authorities are recognising more and more the advantages of the water-carriage system over insanitary privy middens and pail closets. During the year 2,896 of the former and 927 of the latter were converted into water-closets, Chorley (B.) being responsible for the conversion of 923 pail closets. Valuable progress in this direction was also made in Ashton-under-Lyne (B.), where 728 privy middens were converted to waste-water closets and 198 to ordinary water-closets, and similar activity was observed in the extension of the water-carriage system in Bacup (B.), Colne (B.), Dalton-in-Furness, Eccles (B.), Failsworth, Garston, Haslingden (B.), Leigh (B.), Levenshulme, Litherland, Morecambe, Oswaldtwistle, Ramsbottom, Rawtenstall (B.), Stretford, Withington, &c. Dr. Fisher (Lytham) says "the privy midden is an ever present danger to the health of the community, and improvement in the typhoid fever statistics must be looked for from the constant conversion of the present arrangements into the cleanly water-closets and ashpail system. This conversion has been going on very actively during the past twelve months, and the benefit has already been seen in the diminishing number of diarrhœa deaths in the N.E. Ward, where formerly they were very prevalent."

House Drainage, Sewerage, and Sewage Disposal.—Great progress continues to be made by Local Authorities in sewerage, in the coupling up of house drains, and on works for sewage treatment. Considerable extensions of sewerage have been carried out in Blackpool (B.), (new outfall extended

800 yards to sea), Croston, Haslingden (B.), Newton-in-Makerfield, St. Annes-on-the-Sea, Clitheroe (B.), Leigh (R.), Sefton (R.), &c.; while sewage works have been put into operation or extended in the following districts, viz:—Accrington (B.), extension of settling tanks; Atherton, 6 new bacteria filters commenced work; Audenshaw, engaged on scheme estimated to cost £18,640; Clayton-le-Moors, £12,120 sanctioned for additional works on bacteria system; Colne (B.), extensions of sewage works contemplated at a cost of £10,500; Fulwood, scheme in progress—estimated cost, £7,159; Leigh (B.), 6 new bacteria beds completed; Morecambe, new sewage works being pushed forward; Mossley (B.), sewage works converted to bacterial system; Ramsbottom, 5 thermo-bacterial filters being constructed, &c. There are now sewage works in operation in 58 of the 62 County districts within the area under the control of the Mersey and Irwell Watershed Joint Committee, and 53 works in the 42 districts within the Ribble Watershed area. In the two watersheds 3 new schemes have been sanctioned in districts already provided with inadequate means of sewage treatment. Four new works are in course of construction, and 9 "drainage areas" or portions of districts in the Ribble Watershed have no provision for sewage treatment.

In reference to the disposal of sewage it is interesting to note that, as a result of the investigation by the Royal Commission on sewage purification by artificial processes without application to land, the Commission have come to the conclusion—expressed in an interim report—that it is practicable to treat sewage by artificial processes alone so as to produce an effluent which will not putrefy, and they indicate "that there are cases where the land available is unsuitable for the treatment of sewage, is too limited in extent for the purpose, or is only obtainable at a prohibitive cost, in which we should be justified in modifying, under proper safeguards, the rule as regards the application of sewage to land."

Periodical flushing of house drains and sewers was carried out at Allerton, Billinge, Birkdale, Dalton-in-Furness, Fleetwood, Little Woolton, Middleton (B.), Morecambe, Ormskirk, Poulton-le-Fylde, Widnes (B.), Barton-upon-Irwell (R.), &c. Sewers were provided with ventilating shafts at Litherland, Lytham, Moss Side, Poulton-le-Fylde, Stretford, &c. In the following districts smoke tests were applied to house drains with beneficial results, viz. :—Eccles (B.) 389 drains tested, 223 defects found; Garston 75 drains tested, "only 6 were sound;" Great Crosby 86 drains tested, defects almost in each case; 239 drains were tested in Waterloo-with-Seaforth, 655 in Southport (B.), 2,626 in Blackpool (B.), 574 in Stretford, &c.

Water Supply.—More attention has been paid by Local Authorities to the quality of water supplied to their districts, and fewer instances of water so polluted as to cause disease came under notice. The impurities complained of are, as a rule, due to the presence of suspended matter, removable by proper filtration. Medical Officers of Health of the following districts refer to the contamination of water arising from this cause :—Adlington, Clayton-le-Moors, Fulwood, Little Lever, Wardle, and the whole of the districts supplied by the Bury Joint Board, viz. :—Prestwich, Haslingden (B.), Ramsbottom, Rawtenstall (B.), Tottington, &c. The urban district of Preesall-with-Hackinsall, the townships of Nateby, Pilling, and Winmarleigh, in Garstang (R.), and Cockerham in Lancaster (R.) are still without a proper supply, although a joint scheme is under consideration for providing these districts with Fylde water. Extensions of the water supply have taken place in Samlesbury and Barton (Preston R.). In the former township it is proposed to provide the farms with water from the Manchester Corporation aqueduct, and in the latter district the Local Government Board have sanctioned a loan of £1,200 for laying mains from the Fulwood water works. During the year the houses in the village of Allithwaite Lower

(Ulverston R.) have been connected with the water main, and the completion of the water works at Cunsey is reported. Negotiations are in progress for obtaining satisfactory supplies for the following townships in Ulverston (R.), viz.:—Allithwaite Upper, Staveley, Colton, Haverthwaite, Hawkshead, Coniston, Beckside, and Aldingham, but Scales has to rely on rain water. The scheme for supplying Whittle-le-Woods, Clayton-le-Woods, Wheelton, and Heapey (Chorley R.), from Thirlmere (Manchester Corporation), is being carried out. The townships of Euxton, Eccleston, Bretherton, Mawdesley, Ulnes Walton, Heskin, Welsh Whittle, Charnock Richard, in the Chorley rural district, still continue with an unsatisfactory supply. Movements have also been made in the rural districts of Blackburn, Burnley, Clitheroe, Sefton, Warrington, and West Lancashire, to secure better water for many of the townships. Further information on this subject is given in the district summaries appended.

Sale of Food and Drugs Acts.—In respect of food preservatives the Departmental Committee appointed by the President of the Local Government Board to enquire into this subject, issued during the year their report, containing the following important recommendations :—

"(a) That the use of formaldehyde or formalin, or preparations thereof, in foods or drinks be absolutely prohibited, and that salicylic acid be not used in a greater proportion than 1 gr. per pint in liquid food, and 1 gr. per pound in solid food. Its presence in all cases to be declared.

"(b) That the use of any preservative or colouring matter whatever in milk offered for sale in the United Kingdom be constituted an offence under the Sale of Food and Drugs Acts.

"(c) That the only preservative which it shall be lawful to use in cream be boric acid or mixtures of boric acid and borax, and in amount not exceeding 0·25 per cent. expressed as boric

acid. The amount of such preservative to be notified by a label upon the vessel.

"(d) That the only preservative permitted to be used in butter and margarine be boric acid or mixtures of boric acid and borax, to be used in proportions not exceeding 0·5 per cent. expressed as boric acid.

"(e) That in the case of all dietetic preparations intended for the use of invalids or infants chemical preservatives of all kinds be prohibited.

"(f) That the use of copper salts in the so-called greening of preserved foods be prohibited."

The following is an extract from the Report of Dr. Campbell Brown, the Public Analyst for the Administrative County, on the proceedings taken under the Sale of Food and Drugs Acts:—

"During the year 1,838 samples have been analysed, including 1,475 submitted by Superintendents of Police, 45 by the Special Inspector, and 318 by Inspectors for Local Authorities and Private Purchasers. Of these samples 119 were found to be offences.

"They are classified as follows:—

600	samples of	Milk	of which	46	were offences.
197	,,	Butter ...	,,	35	,,
11	,,	Bread and flour	,,	0	,,
42	,,	Tea and coffee	,,	3	,,
68	,,	Small groceries	,,	2	,,
326	,,	Beer and stout	,,	17	,,
277	,,	Wine and spirits	,,	9	,,
95	,,	Confectionery and jam ...	,,	0	,,
16	,,	Drugs	,,	0	,,
206	Miscellaneous samples ...		,,	7	,,
1838	Samples, of which...	...		119	were offences.

"The proportion of offences to total samples is 6·47 per cent. A tabular statement of the prosecutions is appended.

"The total number of prosecutions was 92 with 78 convictions. Of these, 85 cases with 73 convictions were by officers of the County Council, and 7 prosecutions by District Councils with 5 convictions.

'The penalties varied from 1s. to £20. The average penalty was £2 7s. 9d., a larger average than last year, and practically the same as in the year 1899.

"The investigation of cases of beer contaminated by arsenical glucose has led to greater attention being paid to accidental contamination of other articles by arsenic. Malt especially, which before the recent epidemic must have been invariably contaminated by arsenic, was found in some cases to cause a serious amount of arsenic to pass into the beer made from it. It would not be far wrong to say that very little beer contained normally so little as $\frac{1}{100}$th grain of arsenious oxide per gallon, while some contained very much more. At the present time few samples contain an amount approaching $\frac{1}{100}$th grain per gallon, and the usual amount in malt has been reduced to about $\frac{1}{300}$th grain per pound—a quantity which is quite negligible.

"English beer is now more pure than it has been since common coal and coke were first used in malt kilns.

"At the present moment attention is being paid to glycerine, an article largely used in medicine, and liable to be contaminated with arsenic. The British Pharmacopœia allows a not very certain minimum quantity of arsenic—determined by an emperical test—to be present, but this quantity is apt to be exceeded."

TABLE SHOWING THE PROCEEDINGS IN EACH POLICE DIVISION AND BY OTHERS, 1901.

Divisions.	Total Samples.	No. of Offences.	No. of Prosecutions.	No. of Convictions.	Result of Prosecutions.	Penalties. £ s. d.	Costs. £ s. d.	Remarks.
N.L.D.	50	...	2	2	One fined £2, one 10s. and costs	2 10 0	4 17 8	
S.L.D.	53	...	1	1	Fined £20 and costs	20 0 0	3 11 6	
G.D.	81	...	10	10	Two fined £2 10s., one £2, five £1, one 5s. and costs, and one costs only	12 5 0	16 18 1	
Km. D.	123	...	4	3	One fined £5, one £2 and costs, and one costs only	7 0 0	7 8 4	
L.B.D.	37	...	0	0				
H.B.D.	103	...	4	3	Two fined £3, one £1 and costs, and one withdrawn	7 0 0	1 4 0	
Rs. D.	40	...	2	0	One dismissed on production of warranty, and one because summons was out of time	.....	.....	
Ac. D.	30	...	0	0				
L.D.	140	..	3	2	Two fined 10s. and costs	1 0 0	0 19 10	
Bn. D.	85	..	2	2	Two fined £5 and costs	10 0 0	1 17 2	
By. D.	91	..	6	6	*One fined £5, one £3, one £2, one £1, one 5s. and costs, and one costs only	11 5 0	9 14 9	*Committed to Gaol for one month in default
R.D.	74	...	4	3	One fined £10, one £5, one 5s. and costs, one dismissed because sample was not properly divided	15 5 0	14 8 2	
A.D.	54	...	2	2	Two fined £1 and costs	2 0 0	5 11 0	
M.D.	246	...	15	12	One fined £15, one £5, two £2, three £1, two 10s., one 5s., two 1s. and costs, one dismissed because certificate did not state quantity of arsenic, one because absence of fat might be due to poor milk, and one because of notice in bar that all spirits were watered	28 7 0	25 6 3	
S.D.	41	..	1	1	Fined £1 10s. and costs	1 10 0	0 8 1½	
O.D.	24	...	1	1	Fined £1 and costs	1 0 0	1 1 3	
P.D.	58	...	2	2	Two fined £5 and costs	10 0 0	2 1 0	
Ws. D.	52	...	1	1	Fined £2 and costs	2 0 0	2 0 0	
W.D.	52	...	3	2	One fined £5, and one fined 5s. and costs, one withdrawn ...	5 5 0	6 1 3	
Wgn. D.	41	...	2	2	Two fined £1 and costs	2 0 0	1 1 6	
	1475	...	65	55		138 7 0	104 9 10½	
Inspr. Parkinson..	45	...	20	18	One fined £10, two £5, two £2, two £1, three 10s., three 5s. 6d., one 5s., one 2s. 6d., two 1s. and costs, and one costs only, two withdrawn owing to flaw in laying information	28 16 0	Not reported	
Total by County Officers ...	1520	104	85	73		167 3 0		
Inspctors of District Councils and Private Purchasers... ...	318	15	7	5	One fined £5, one £2, two £1 and costs, one costs only, two dismissed owing to the magistrate's misapprehension of the law...	9 0 0	11 11 0	
	1838	119	92	78		176 3 0		

SUMMARY OF THE REPORTS

RECEIVED FROM

MEDICAL OFFICERS OF HEALTH

OF

URBAN AND RURAL SANITARY AUTHORITIES

FOR THE YEAR 1901.

URBAN SANITARY DISTRICTS.

Abram.—(Area in acres, 1,984; Estimated Population, 6,325.)
Medical Officer of Health, NATHAN HANNAH, L.R.C.P.E.; *Salary*, £30.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	39·2	47·7	44·7
Death-rate	26·7	27·4	21·6
Zymotic death-rate	7·27	6·82	3·74
Phthisis ,,	1·26	0·75	1·08
Respiratory ,,	4·90	7·18	5·46
Rate of deaths under 1 year to 1,000 births	225	230	193

The Census in March showed that the population of this district had been under-estimated by 1,029 persons. The mortality statistics for the year under review cannot be considered satisfactory: the death-rate is 5·1 per 1,000 above the mean of the 10 years 1891-1900, and the zymotic and infant rates are excessive. Forty-six deaths took place from the seven principal zymotic diseases, viz., diarrhœa 15, typhoid fever 10, diphtheria 10, measles 6, and scarlet fever 5. Scarlet fever, with 67 cases, was prevalent the greater part of the year, and attained its maximum prevalence in August. The epidemic of diphtheria which prevailed in the last few months of 1900 continued in the year under report, and caused 85 cases; the two schools principally affected were closed for a period of two weeks after the expiration of the holidays in January. Typhoid fever gave rise to 54 cases, and erysipelas 3 cases.

Hospital Accommodation nil. The proposed conjoint scheme with Ashton-in-Makerfield has been abandoned, and the Council are now taking steps to provide accommodation in their own district, land having been provisionally acquired as a site, and plans submitted to the Local Government Board.

Disinfection.—No proper appliances.

Water Supply good.

Sewerage, Scavenging, &c.—Sewage appears to be satisfactorily treated on bacteria contact beds. The pollution of Borsdane Brook and Common Lane Brook by sewage from property outside the district continues, and gives rise to a serious nuisance. Scavenging undertaken by contract is not altogether satisfactory; in one portion the contractor neglected his duties, and the Council themselves undertook the work.

Sanitary Inspection.—Dr. Hannah draws the attention of the Council to the condition of streets, back yards, and gullies in Plank Lane, Warrington Road, &c., and also to the insufficient closet accommodation in Lily Lane and Abram Brow. Bakehouses, slaughter-houses, factories, and workshops are described as satisfactory. Dairies and cowsheds—subject to regulations—receive frequent inspections. The Inspector (Mr. Eatock) issued 43 notices to secure the abatement of 60 nuisances. Of 71 canal boats inspected 69 conformed with the regulations.

Accrington (Borough).—(Area in acres, 3,427; Estimated Population, 43,223.)—*Medical Officer of Health*, Arthur Greenhalgh, M.R.C.S., D.P.H.; *Salary*, £100.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	24·8	24·6	26·4
Death-rate	16·3	15·2	16·2
Zymotic death-rate	1·78	1·88	1·99
Phthisis ,,	0·92	1·04	0·94
Respiratory ,,	3·21	3·08	3·46
Rate of deaths under 1 year to 1,000 births	159	144	167

The Census return shows that the population of the Borough last year was over-estimated by 1,877 persons. The mortality

statistics correspond closely with the mean of the preceding 10 years. The epidemic of measles which occurred in the concluding months of 1900 continued during the early part of the year under review, and in August and September diarrhœa was very prevalent; the former disease contributed 21 deaths and the latter 32. Improper feeding of infants was no doubt the cause of many of the diarrhœa attacks, and Dr. Greenhalgh suggests the employment of a Female Sanitary Inspector to advise on this and other matters connected with the welfare of young children. Whooping cough gave rise to 4 deaths. Scarlet fever had a diminished prevalence with 154 cases 9 deaths, against 218 cases 4 deaths in 1900, and 398 cases 10 deaths in 1899. The other notifications were typhoid fever 25 cases with 8 deaths, diphtheria 13 cases with 3 deaths, and puerperal fever 2 deaths.

Hospital Accommodation.—The only hospital provision available is for small-pox cases. The old building was burnt down in April, but has been rebuilt.

Disinfection.—Frazer's dry heat apparatus is in use. Two hundred rooms were fumigated, and 1,754 articles of clothing, bedding, &c., passed through the disinfector.

Water Supply, obtained from the Accrington, &c., Joint Board, is described as "fairly good." At times complaints are made regarding turbidity "due to contamination in passing through the pipes."

Sewerage, Scavenging, &c.—Sewage is treated at the Accrington and Church joint outfall works. The complete installation of filters is now in operation, and steps are being taken for the extension of the settling spaces provided for the reception of the thermal ærobic filter effluent. The Baxenden portion of the district is still without a satisfactory sewerage scheme. Scavenging is carried out under the supervision of the Nuisance Inspector. The new destructor has done good work, 10,780 tons of refuse being dealt with during the year.

Sanitary Inspection.—New regulations under the Dairies and Cowshed Order came into operation on the 6th of May; a period of two years is allowed to enable the existing buildings to be made to comply with present sanitary requirements. The public abattoirs and the 5 private slaughter-houses are in good condition, and bakehouses, lodging-houses, &c., are well kept. At most of the factories there is insufficient privy accommodation, although there was an addition of 58 closets during the year. Ninety-three privy and pail closets were converted to the water carriage system. The Inspector (Mr. Diggle) served 343 notices, and details are given of the 552 nuisances abated. Twenty-two smoke observations were taken.

Adlington.—(Area in acres, 1,062; Census Population, 4,523.)
Medical Officer of Health, Alfred E. Mole, M.B.; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	27·6	31·2	32·8
Death-rate	11·4	21·2	16·0
Zymotic death-rate	1·10	2·70	1·71
Phthisis ,,	0·66	0·41	0·89
Respiratory ,,	0·66	5·41	3·80
Rate of deaths under 1 year to 1,000 births	112	220	139

The mortality statistics presented by Dr. Mole show a marked decrease in the death-rate, and also in the zymotic, respiratory, and infant rates as compared with the previous year and the mean of the 10 years 1891-1900. Measles, although not the cause of a single death, was prevalent during October and November, necessitating the closure of two schools. "In order to check the spread of this disease, and assist the managers of the various schools with regard to attendances," the Medical Officer of Health again recommends

that the first case occurring in a house be notified. Sixty cases of infectious disease were notified, viz., scarlet fever 26, typhoid fever 6, diphtheria and membranous croup 13 (4 deaths), erysipelas 12, puerperal fever 2, and continued fever 1. The Council have made arrangements for the bacteriological verification of any cases of typhoid fever, diphtheria, or tuberculosis.

Hospital Accommodation.—The joint isolation hospital at Heath Charnock was opened in April, and 14 cases were removed—10 scarlet fever, 2 typhoid fever, and 2 diphtheria.

Disinfection.—No proper disinfecting appliances. Houses are fumigated with sulphur.

Water Supply is obtained from the Blackrod Urban District Council and distributed in an unfiltered state ; at times the water, after a heavy rainfall, becomes turbid. During the summer months the supply was inadequate.

Sewerage, Scavenging, &c.—The sewage receives treatment in tanks—on the International system—and subsequent land irrigation. Scavenging is in the hands of the Authority. The privy midden system is again referred to as " a great source of danger to the public health."

Sanitary Inspection.—The number of houses of the artisan class is inadequate to meet the requirements of the district, and in many cases the sites of the old property are too confined. One house was condemned as unfit for human habitation. Bakehouses, slaughter-houses, and factories are in good sanitary condition. Dairies and cowsheds come under supervision, but, unfortunately, they are not subject to regulations. The Inspector (Mr. Farnworth) wrote 10 letters regarding nuisances, and gave 20 verbal notices, all of which received attention.

Allerton.—(Area in acres, 1,589; Census Population, 1,101.) *Medical Officer of Health*, C. Stuart Pethick, M.B.; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	19·0	20·9	22·3
Death-rate	7·2	11·4	10·1
Zymotic death-rate	nil.	nil.	0·92
Phthisis ,,	nil.	nil.	0·64
Respiratory ,,	0·90	2·85	1·63
Rate of deaths under 1 year to 1,000 births	47	136	101

The general death-rate shows a reduction of 4·2 per 1,000 as compared with last year, and is well below the average of the preceding 10 years. As in 1900 not a single death took place from the seven principal zymotic diseases or from phthisis, and the respiratory and infant rates are considerably reduced. Only two cases of scarlet fever were notified.

Hospital Accommodation—The two cases notified were removed to the Liverpool Corporation Hospital.

Disinfection by Frazer's dry heat apparatus. The Council offer to disinfect houses after death from phthisis.

Water Supply obtained from Liverpool.

Sewerage, Scavenging, &c.—Sewage is conveyed to the Garston main outfall. Periodical flushing of the sewers is carried out. Scavenging—in the hands of the Authority—gives satisfaction.

Sanitary Inspection.—About 150 houses have been inspected during the year, and six orders were issued for sanitary amendments. Bakehouses, milk-houses, and cowsheds are said to be in satisfactory condition. The latter are subject to regulations.

Ashton-in-Makerfield.—(Area in acres, 6,251; Estimated Population, 18,807).—*Medical Officer of Health*, NATHAN HANNAH, L.R.C.P.E.; *Salary*, £60.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	39·8 ...	43·4 ...	43·7
Death-rate	19·0 ...	20·3 ...	20·1
Zymotic death-rate.....	3·40 ...	4·08 ...	3·24
Phthisis ,, ...	1·22 ...	0·78 ...	1·20
Respiratory ,, ...	3·29 ...	3·72 ...	4·23
Rate of deaths under 1 year to 1,000 births.....	188 ...	210 ...	177

The Census showed that the population of last year had been under-estimated by 2,157. Taking this increase into consideration, the mortality statistics vary but little from those of the preceding year. A severe epidemic of summer diarrhœa was responsible for 49 deaths, equal to a rate of 2·6 per 1,000. Whooping cough gave rise to 4 fatalities. Scarlet fever prevailed throughout the year, but more especially in April and the four subsequent months; altogether 133 cases were notified and 4 terminated fatally. Promiscuous visiting and the absence of means for thorough disinfection of infected clothing no doubt contributed to the number of attacks. Typhoid fever—attributed, in some instances, to insanitary surroundings—was responsible for 28 cases 4 deaths, diphtheria and membranous croup 17 cases 3 deaths; continued fever 3 cases, puerperal fever 6 cases, and erysipelas 15 cases.

Hospital Accommodation.—Sixty-four cases were isolated in hospital, viz., scarlet fever 55, typhoid fever 8, and diphtheria 1. Dr. Hannah reports that the present hospital (9 beds) is insufficient for the needs of the district, and the provision of further accommodation is now receiving consideration.

Disinfection.—No proper apparatus. Rooms fumigated, either with sulphur or formalin, numbered 218.

Water Supply good, obtained partly from Council's own reservoir and partly from the Liverpool Corporation.

Sewerage, Scavenging, &c.—The Medical Officer of Health reports that samples of "the effluent from the several outfall works and contact beds have been good." Scavenging as performed by the Authority is "fairly good," but might be improved.

Sanitary Inspection.—Several blocks of insanitary property are at present receiving attention. The Inspector (Mr. Gamble) again draws the attention of the Council "to the wretched condition of the private and back streets; no attempt is made to drain or keep them in repair, and during the winter months these streets are almost impassable." Bakehouses are well kept, but one slaughter-house is in an undesirable position. Dairies and cowsheds apparently gave satisfaction, and factories and workshops comply with sanitary requirements. The nuisances abated numbered 1,084, and these required the service of 178 notices. Twenty-seven privies were converted to the pail system.

Ashton-under-Lyne (Borough).—(Area in acres, 1,346; Census Population, 43,890).—*Medical Officer of Health*, W. H. Hughes, M.R.C.S.; *Salary*, £130.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	24·8	27·4	28·9
Death-rate	18·7	20·1	21·5
Zymotic death-rate	1·86	1·93	2·30
Phthisis ,,	1·79	1·53	2·12
Respiratory ,,	3·91	4·13	4·85
Rate of deaths under 1 year to 1,000 births	182	181	197

The enumeration at the Census showed that the population of the Borough in 1900 had been over-estimated by 1,110.

The birth-rate was 4·1 and the death-rate 2·8 per 1,000 below the mean of the 10 years 1891-1900; the zymotic, phthisis, respiratory, and infant rates were also below the average. The latter rate, however, continues high, and the Health Committee are endeavouring to prevent this serious loss of infant life by the establishment of a depôt for the sale of sterilized milk, and also by the formation of a "Ladies' Health Society," which has already done good work by impressing upon the poorer classes the value and necessity of personal hygiene, and by demonstrating how young children should be washed, clothed, and fed. Diarrhœa was excessively prevalent in the summer months, and caused no fewer than 57 deaths, against 15 in the preceding year. Whooping cough was responsible for 5 deaths, and measles 3. Scarlet fever prevailed in epidemic form throughout the district, especially in the latter half of the year. Altogether 252 cases were notified, and 8 deaths resulted. The steps taken to prevent the spread of this disease included school closure and subsequent disinfection. Typhoid fever contributed 39 cases 3 deaths, continued fever 3 cases, and puerperal fever 2 cases. Arrangements have been made for the bacteriological examination of suspected cases of diphtheria.

Hospital Accommodation.—The accommodation available (16 beds) is not sufficient for the needs of so large a district, and there is also an absence of provision for small-pox. During the first half of the year only 9 cases of scarlet fever were isolated in the hospital, and in the latter six months 18 cases of typhoid fever received treatment.

Disinfection.—Mason's apparatus provided. There were 409 rooms fumigated.

Water Supply is described as good.

Sewerage, Scavenging, &c.—The Chief Inspector of the Mersey and Irwell Joint Committee reports that "the Ashton Corporation have been very dilatory in getting their outfall

works into operation. The tanks and filters are practically completed, and although the buildings for the sludge presses are not yet finished I think it reasonable that the Corporation should be required to make arrangements for commencing the treatment of the sewage." Scavenging is satisfactorily performed by the Authority, the refuse being conveyed to the destructor.

Sanitary Inspection.—Twelve houses were condemned as unfit for human habitation and closed. Bakehouses, slaughter-houses, and lodging-houses are frequently inspected and reported as in fair condition. Dairies, cowsheds, and milk-shops are "as good as can be expected." The Chief Inspector (Mr. Potter) gives details of 839 notices issued dealing with 2,604 nuisances, 1,957 of which were abated. Privies converted to waste-water closets numbered 728, and 198 were converted to ordinary water closets. Sixty-six samples purchased under the Sale of Food and Drugs Act resulted in 8 prosecutions. Smoke observations—in previous years so extensively taken—have ceased.

Aspull.—(Area in acres, 1,906; Census Population, 8,388.) *Medical Officer of Health*, L. Cooke, L.R.C.P.; *Salary*, £25.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	36·9	34·3	36·6
Death-rate	22·2	19·2	18·9
Zymotic death-rate	5·12	1·22	3·01
Phthisis ,,	0·35	1·11	0·77
Respiratory ,,	4·29	5·11	4·78
Rate of deaths under 1 year to 1,000 births	151	184	168

The birth-rate is the highest recorded during the last seven years, while the death-rate and zymotic rate are also much above the average, chiefly through an increased number of deaths from diphtheria and diarrhœa. The latter disease,

which last year caused only one fatality, gave rise to 14 deaths, and the former disease—associated with membranous croup—was unusually prevalent, more especially in the New Springs district, and caused 19 deaths amongst the 62 persons attacked. In the early part of the year scarlet fever had a somewhat extensive prevalence and necessitated school closure; altogether 137 cases with 4 deaths occurred. The remaining notifications were typhoid fever 8 cases with 2 deaths, erysipelas 9 cases, and puerperal fever 2 cases. During April and May measles prevailed in the New Springs district, causing 2 deaths. Dr. Cooke suggests the inclusion of measles and phthisis in the list of notifiable diseases.

Hospital Accommodation is said to be available at the Wigan Sanatorium, but during the last two years not a single case has been removed.

Disinfection.—The infected bedding, clothing, &c., is stoved at Wigan. Forty houses were fumigated.

Water Supply is "good and plentiful," but complaints are made in the higher parts of the district regarding the want of pressure.

Sewerage, Scavenging, &c.—The sewage is treated on the Wigan Corporation sewage farm. Scavenging is effectually performed by contract. The Medical Officer of Health again draws attention to the necessity for paving the back streets and yards in the Top Lock district without further delay.

Sanitary Inspection.—During the year Dr. Cooke has made several reports respecting insanitary property, and the recommendations contained therein have been carried into effect "as far as it is possible with old property." Bake-houses, slaughter-houses, factories and workshops are satisfactorily conducted. Dairies and cowsheds—subject to regulations—are described as "fair." To remedy nuisances 155 notices were issued.

Atherton.—(Area in acres, 2,265; Census Population, 16,211).—*Medical Officer of Health*, James Marsh, M.B.; *Salary*, £50.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	33·0 ...	34·7 ...	37·8
Death-rate	18·6 ...	19·1 ...	19·3
Zymotic death-rate.....	4·62 ..	4·18 ...	3·72
Phthisis ,, ...	0·86 ...	1·33 ...	1·21
Respiratory ,, ...	3·14 ...	4·36 ...	4·97
Rate of deaths under 1 year to 1,000 births.....	201 ...	184 ...	171

The birth and death rates each show a reduction as compared with 1900 and the mean of the past decade, but the zymotic and infant rates are above the average, the increased figures being largely due to a severe epidemic of diarrhœa, which caused 59 fatalities. Scarlet fever and typhoid fever were prevalent throughout the year, but more especially during the last quarter; the former disease contributed 86 cases 4 deaths, and the latter 50 cases 8 deaths. Many of the typhoid fever cases were attributed to insanitary conditions of houses and surroundings, and it is pleasing to note that a scheme is in operation for converting the old privy middens into water closets, some 200 having been reported to the Council as insanitary. Diphtheria and membranous croup gave rise to 14 cases 2 deaths, erysipelas 28 cases, puerperal fever 3 cases, and whooping cough 2 deaths. Dr. Marsh advises the voluntary notification of phthisis.

Hospital Accommodation.—The joint isolation hospital at Astley was used for the treatment of 61 patients—32 scarlet fever, 28 typhoid fever, and 1 diphtheria; amongst these seven deaths occurred from typhoid fever and 2 from scarlet fever.

Disinfection.—Mason's steam apparatus is available.

Water Supply, obtained from Bolton and Manchester, is abundant and of good quality.

Sewerage, Scavenging, &c.—The Mersey and Irwell Joint Committee have not been entirely satisfied with the effluent from the Leigh and Atherton joint sewage farm Six new bacteria beds have been brought into operation, and it is intended to extend the filter beds. Scavenging is carried out by the officials of the Council in a satisfactory manner; a refuse destructor has just been erected.

Sanitary Inspection.—One house unfit for human habitation was closed, and the use of one underground bakehouse has been discontinued. Slaughter-houses, lodging-houses, dairies, and cowsheds, were generally satisfactory. Additional sanitary conveniences have been provided at some of the factories and workshops. The Inspector reported upon 229 nuisances. Thirty-six waste-water closets have been provided in place of privy middens, and 79 other privies have been repaired. Two whole carcases of tuberculous beef and part of a third were destroyed.

Audenshaw.—(Area in acres, 1,241; Estimated Population, 7,231.)—*Medical Officer of Health*, F. W. Allkin, M.B.; *Salary*, £20 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	20·7	24·7	27·2
Death-rate	13·2	17·2	16·3
Zymotic death-rate	0·82	3·28	1·69
Phthisis ,,	0·82	0·65	1·05
Respiratory ,,	2·21	4·47	3·38
Rate of deaths under 1 year to 1,000 births	153	143	149

The birth and death rates each show a reduction of 4 per 1,000 as compared with last year, and the zymotic rate is

2·46 lower. The phthisis and respiratory rates are below the average of previous years, but the proportion of deaths of infants under 1 year to 1,000 births is less favourable. Measles did not give rise to a single fatality, but diarrhœa caused 3 deaths. Scarlet fever was responsible for 44 cases, many of which were no doubt due to the want of complete isolation. Diphtheria contributed 16 cases 3 deaths, typhoid fever 6 cases, erysipelas 5 cases, and puerperal fever 1 case.

Hospital Accommodation.—Four cases (scarlet fever 2 and typhoid fever 2) were removed to the Hyde Corporation hospital. Only two beds are available for the use of this district, and Dr. Allkin recommends the Council to secure further accommodation.

Disinfection.—No proper appliances. Infected houses are fumigated with sulphur.

Water Supply good, obtained from the Ashton-under-Lyne, &c., Joint Board.

Sewerage, Scavenging, &c.—Sewage is at present discharged into the River Tame, but during the year the Council have been engaged in carrying out a sewerage scheme, the full cost of which is estimated at £18,640. Scavenging, undertaken by contract, gives satisfaction. The refuse is tipped on low-lying ground and covered with soil.

Sanitary Inspection.—There is a good deal of old property in the district, and in one portion sanitary improvements are needed. Bakehouses, slaughter-houses, dairies, and cowsheds are described as in good condition, but in the latter the air space required by the regulations, viz., 400 cubic feet per cow, is far too low. Sixty notices were served for the abatement of nuisances, and nearly all were complied with.

Bacup (Borough).—(Area in acres, 6,120; Census Population, 22,505.)—*Medical Officer of Health*, John Brown, M.D., D.P.H.; *Salary*, £100.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	21·5	24·1	24·7
Death-rate	16·1	19·3	18·7
Zymotic death-rate	1·06	2·25	1·55
Phthisis ,,	0·84	0·94	1·12
Respiratory ,,	3·37	4·67	4·73
Rate of deaths under 1 year to 1,000 births	142	169	165

The birth and death rates of the period under review are the lowest recorded during the past decade, and the zymotic, phthisis, respiratory, and infant rates are below the average. During the last quarter of the year an epidemic of measles occurred, but fortunately it was of a mild type, and only 5 deaths resulted. Diarrhœa gave rise to 9 deaths, and whooping cough 3. Scarlet fever had a diminished prevalence, 82 cases with 3 deaths occurring, against 395 cases 22 deaths in the preceding year. A difficulty is experienced in dealing with this disease owing to the want of hospital accommodation. Typhoid fever contributed 9 cases 3 deaths, diphtheria 6 cases 1 death, and erysipelas 14 cases. The Health Committee have offered to disinfect houses after death from phthisis has taken place, but so far this offer has not been accepted.

Hospital Accommodation. — The only accommodation available is for small-pox. Dr. Brown urges the Council to seriously consider the provision of a hospital for the treatment of ordinary infectious diseases.

Disinfection.—No proper appliances for the disinfection of bedding, clothing, &c. Houses are fumigated "where practicable" with formaldehyde vapour.

Water Supply described as "excellent" except in the

case of private supplies, some of which are liable to contamination.

Sewerage, Scavenging, &c.—The sewage receives bacterial treatment at the joint outfall works at Ewood Bridge. The Authority undertake the scavenging with satisfactory results; the refuse is tipped on vacant land. The desirability of erecting a refuse destructor is still under consideration.

Sanitary Inspection.—Many old back-to-back houses exist, but every year attempts have been made to improve them by securing more light and ventilation. Bakehouses and slaughter-houses are said to be in fairly good condition; no information is given respecting dairies and cowsheds. The Medical Officer of Health reports that the abolition of the pail closets and the substitution of water closets would be a great benefit to the public health. During the year 81 such conversions took place. The Inspector states that 75 nuisances were abated, but details are not given. No active measures were taken during the year with regard to the smoke nuisance.

Barrowford.—(Area in acres, 1,385; Estimated Population, 5,000).—*Medical Officer of Health*, F. E. de Beeho Pim, L.R.C.P.I.; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 8 years, 1893-1900.
Birth-rate	26·2	24·1	27·6
Death-rate	13·8	12·1	15·9
Zymotic death-rate.....	2·20	1·50	2·30
Phthisis ,, ...	0·60	0·50	0·69
Respiratory ,, ...	3·60	2·50	2·86
Rate of deaths under 1 year to 1,000 births.....	129	144	162

As compared with last year the death-rate shows an increase of 1·7 and the zymotic rate 0·7 per 1,000 of the

population, but the proportion of infant deaths to births is reduced. Scarlet fever and diphtheria gave rise to much trouble, especially in the last quarter of the year, when school closure had to be resorted to; the former disease was responsible for 40 cases 2 deaths, and the latter 21 cases 4 deaths. The prevalence of these diseases was, in December, the subject of a special report. Typhoid fever caused 4 cases 2 deaths, erysipelas 3 cases, measles 2 deaths, and whooping cough 1 death.

Hospital Accommodation.—An arrangement with the Nelson Corporation exists to treat cases of small-pox, but no provision is made for ordinary infectious diseases.

Disinfection.—No apparatus. Dr. Pim strongly urges the Council to provide proper disinfecting appliances. In many cases the infected bedding, &c., was destroyed.

Water Supply, obtained from the Nelson Corporation, described as "very good."

Sewerage, Scavenging, &c.—Sewage is treated by intermittent downward filtration. During the year an additional acre of land at the outfall works has been laid out for irrigation purposes. Scavenging is satisfactorily carried out by the Authority, the excreta being deposited on farms, and the ashes tipped on land within the district.

Sanitary Inspection.—Dairies, cowsheds, and milkshops—not subject to regulations—are kept clean, but there is an insufficiency of light, air space, and ventilation. Slaughter-houses do not comply with sanitary requirements. The sanitary arrangements at several of the factories and workshops has been improved. The conversion of privy middens to the water carriage system is gradually taking place. Fourteen notices were served for the abatement of nuisances.

Billinge.—(Area in acres, 4,596 ; Census Population, 4,232). *Medical Officer of Health*, Richard O. Mather, M.B. ; *Salary*, £30.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	31·9	30·1	35·2
Death-rate	17·0	17·6	18·2
Zymotic death-rate	3·30	1·88	1·69
Phthisis ,,	0·47	0·47	1·04
Respiratory ,,	3·30	3·29	3·50
Rate of deaths under 1 year to 1,000 births	214	218	153

With the exception of the zymotic rate the statistics under review vary but little from those of the preceding year ; this rate shows an increase equal to 1·42 per 1,000, due mainly to 9 deaths from diarrhœa. Measles had a widespread prevalence in the summer months, but fortunately it was of a mild type and not a single death resulted. Dr. Mather reports that, in his opinion, the notification of this disease is essential. Scarlet fever, with 32 cases 2 deaths, was more prevalent than usual, and its spread was attributed to inefficient isolation in the cottage houses. Typhoid fever contributed 6 cases 2 deaths, erysipelas 2 cases, and whooping cough 1 death.

Hospital Accommodation.—An isolated cottage with four beds is rented, but it was not used during the year.

Disinfection.—No apparatus available.

Water Supply abundant and of good quality.

Sewerage, Scavenging, &c.—"The effluents from the various sewage farms have at all times furnished satisfactory analyses." Improvements have been made regarding flushing and ventilation of the sewers. Scavenging is satisfactorily performed by the Authority.

Sanitary Inspection.—The sanitary condition of old property at Roby Well and Rainford Road is said to be "so bad that nothing short of demolition will effect a remedy." Bakehouses and slaughter-houses are well conducted, but sufficient care is not exercised as regards cleanliness and ventilation of dairies and cowsheds. The Council have recently resolved to make dairy, &c., regulations. To secure the abatement of 35 nuisances 27 notices were required.

Birkdale.—(Area in acres, 2,699; Census Population, 14,197). *Medical Officer of Health*, A. V. Wheeler, L.R.C.P.E.; *Salary*, £60.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	22·4	22·2	23·3
Death-rate	14·0	14·7	14·9
Zymotic death-rate	1·12	0·33	0·94
Phthisis ,,	1·19	0·93	1·02
Respiratory ,,	1·83	2·53	2·18
Rate of deaths under 1 year to 1,000 births	147	125	145

The general death-rate is fractionally reduced as compared with 1900 and the mean of the preceding decade, but the zymotic, phthisis, and infant rates are slightly increased. An epidemic of measles occurred during the latter portion of the year, but only 1 death resulted. Diarrhœa and whooping cough each caused 5 deaths. Scarlet fever of a mild type was responsible for 28 cases, typhoid fever 7 cases 1 death, diphtheria and membranous croup 18 cases 4 deaths, erysipelas 8 cases, and puerperal fever 1 case. Arrangements have been made for bacteriological examinations in suspected cases of typhoid fever and diphtheria.

Hospital Accommodation consists of a Ducker hospital with 16 beds, and a cottage hospital with 10 beds. During the year 12 cases of scarlet fever were treated in hospital.

Disinfection is carried out by means of Frazer's apparatus and sulphur fumigation.

Water Supply good and plentiful, obtained from the Southport Waterworks Company.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. The sewers have received a thorough cleansing, and means of flushing and ventilation have been provided. The Authority carry out the scavenging.

Sanitary Inspection.—Reference is again made to the nuisances arising from the keeping of pigs in the neighbourhood of Swire Road. Bakehouses and slaughter-houses are kept clean and regularly limewashed. Dairies and cowsheds —subject to monthly inspection by a veterinary surgeon— comply with the regulations. The Inspector (Mr. Jump) gives details of the 255 nuisances remedied. Eleven ashpits have been abolished and dust bins substituted. Five smoke observations were taken.

Blackpool (Borough).—(Area in acres, 3,601; Estimated Population, 50,750.)—*Medical Officer of Health*, Francis J. H. Coutts, M.D., D.P.H.; *Salary*, £500.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	22·8	25·2	25·2
Death-rate	16·4	14·3	14·9
Zymotic death-rate	2·30	1·97	2·05
Phthisis ,,	0·96	0·65	0·99
Respiratory ,,	2·18	2·53	3·27
Rate of deaths under 1 year to 1,000 births	167	149	170

At the Census in April Blackpool had a population of 47,348; the proportion of males being about 7 to every 9 females. In August Dr. Coutts estimated the number of residents at 50,750, and on this basis the various death-rates

have been calculated. The death-rate was 2·1 higher than last year, and 2·5 in excess of the mean of the previous 10 years, but this increase was entirely due to 131 deaths of visitors or non-residents, which now appear among the Borough deaths for the first time in compliance with the new Local Government Board tables. The birth-rate was 22·8 or 2·4 below the rate for last year and the average of the previous 10 years. The zymotic, phthisis, and infant death-rates compare unfavourably with the year preceding. Diarrhœa caused 41 deaths, of which 38 were among children under 1 year, and 3 between 1 and 5 years of age. The disease proved most fatal from the 28th to the 38th week inclusive, when the four-foot thermometer reached 56° F. or over. The Medical Officer reports that the year has been marked by an unprecedented outbreak of diphtheria—there were 131 cases notified with 32 deaths, and 3 cases of membranous croup with 1 death. Advantage was taken of Professor Delépine's services; of 111 cases bacteriologically examined the reports stated that "diphtheria bacilli were found in 57 cases, and were absent in 51 cases, and in 1 case doubtful and 2 cases no growth." Schools seemed to have some influence during the year, but in many instances it was difficult to discover the source of infection. The following conditions apparently favoured the spread of the disease—(1) The failure to concrete the sites of houses on a clay foundation, and (2) the dangerously dirty condition of the back streets and passages. The Council, in December, provided a supply of diphtheria antitoxin to the medical practitioners for the treatment of cases on application free of cost. Typhoid fever caused 16 deaths among 58 cases notified; in 51 of the cases Widal's test was applied and 42 gave a positive reaction, 8 a negative reaction, and 1 case the amount of blood sent was insufficient for a satisfactory test. Scarlet fever prevailed extensively and gave rise to 271 cases, of which 15 ended fatally. Sixty-five per cent. of the typhoid fever cases and 86 per cent. of the scarlet fever cases were removed to hospital. The other principal zymotic deaths

were due to measles (4) and whooping cough (12), while small-pox gave rise to 2 attacks in April and 2 in September.

Hospital Accommodation.—The hospital constructed for, nominally, 20 beds and 4 cots has been found to be insufficient, and further extensions are contemplated. During the year the following cases received treatment, viz., scarlet fever 236, enteric fever 40, diphtheria 7, measles 8, small-pox 4, and 2 other cases, a total of 297 cases, as compared with 237 the previous year. The average stay in the hospital was 36·9 days, and the cost of each patient, including interest and sinking fund, £1 1s. 10·2d. per week. In this cost the expenses incurred in disinfecting articles sent from the Borough is included.

Disinfection.—Houses are fumigated by burning sulphur after washing down walls and furniture with solution of perchloride of mercury. Clothes, bedding, &c., are disinfected in steam apparatus (Washington Lyons); 46,336 articles were so disinfected. In cases of diphtheria and typhoid fever the drains are flushed with a solution of chloride of lime, and all typhoid excreta, whether the patients are treated at the hospital or at home, is collected in special pails and burnt at the destructor. Fumigation of rooms with sulphur is carried out after measles and after deaths from phthisis on request.

Water Supply is under the jurisdiction of the Fylde Water Board and very satisfactory.

Sewerage, Scavenging, &c.—A new iron outfall of three feet diameter has been carried out to sea 800 yards, so as to deliver the sewage into the sea below extreme low-water mark. With few exceptions the water-carriage system is adopted. The refuse is collected from ash receptacles weekly, but during the season in some portions of the town daily collections are made. The refuse is dealt with almost entirely at the destructor.

Sanitary Inspection receives careful attention, and the magnitude of the work dealt with during the year is shown by some of the items given in the Report; for instance—

Complaints received		320
Inspections of houses and other premises		1601
Number of houses inspected		1100
Houses where sanitary defects were found		890
Re-inspections of houses, &c.		4857
Notices served for the abatement of nuisances	Council	276
	Preliminary	1166
	Verbal	169
Total number of house drains tested		2626
Number of sanitary defects remedied		2351
Drains re-laid, disconnected, and ventilated		512
Drains re-laid and cleaned out		172
New w.c.'s erected in lieu of privies		45
W.C.'s repaired or unblocked		225
W.C. soil pipes ventilated		58
Houses cleaned and limewashed		26
Floors re-laid with flags or with cement concrete		121
Back yards repaired		182
Back yards flagged		207
Accumulations of refuse removed		280
Animals removed from improper situations		25

In addition, 666 houses were disinfected after cases of infectious disease or phthisis, and 698 isolation notices were served on householders and 525 on school managers. Slaughter-houses have received numerous inspections, and food found to be unfit for human consumption has been destroyed. The dairies and cowsheds are regularly visited by a veterinary inspector, and some improvement in the standard of cleanliness has been observed. Factories, workshops, bakehouses, common lodging-houses, offensive trades, and other sanitary matters have also been under close supervision.

Blackrod.—(Area in acres, 2,392; Census Population, 3,875.) *Medical Officer of Health*, J. W. Unsworth, M.B.; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	31·7	32·0	31·6
Death-rate	19·6	19·7	15·5
Zymotic death-rate	3·61	0·76	2·30
Phthisis ,,	nil.	1·28	0·48
Respiratory ,,	4·12	4·10	2·94
Rate of deaths under 1 year to 1,000 births	162	128	128

The general death-rate, zymotic rate, and the proportion of infant deaths to births are again above the average of the preceding decade, due mainly to the number of deaths from diarrhœa, viz., 9. Measles—the cause of 3 deaths—was very prevalent throughout the district in October and November, and the two schools were closed for a period of six weeks. The notifications received numbered 37, viz., scarlet fever 10 (2 fatal), typhoid fever 5, diphtheria 6, erysipelas 10, continued fever 2, and puerperal fever 4.

Hospital Accommodation.—The new joint hospital scheme is making satisfactory progress.

Disinfection.—No apparatus.

Water Supply.—Excellent and abundant.

Sewerage, Scavenging, &c.—The irrigation area at the sewage works is very large in proportion to the population it has to deal with, and absorbs the whole of the sewage. Scavenging is now in the hands of the Authority, and is performed better than formerly.

Sanitary Inspection.—Dairies, cowsheds, and milkshops were periodically inspected and found in good condition, although they are not subject to regulation. The private

slaughter-houses, workshops, &c., appear satisfactory. The Inspector served 45 notices for the abatement of nuisances, 24 of which were complied with, and the remainder were unabated at the close of the year.

Brierfield.—(Area in acres, 807; Estimated Population, 7,600).—*Medical Officer of Health*, Thomas Dean, M.D.; *Salary*, £20 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 3 years, 1898-1900.
Birth-rate	27·1	26·7	27·2
Death-rate	15·2	10·5	13·7
Zymotic death-rate	2·36	0·50	1·93
Phthisis ,,	0·78	0·87	1·13
Respiratory ,,	2·76	2·50	2·53
Rate of deaths under 1 year to 1,000 births	194	102	163

As compared with the previous year the death-rate shows an increase of 4·7 per 1,000 of the population, and is 1·5 above the mean of the 3 years 1898-1900. The zymotic, respiratory, and infant rates are less favourable. Diarrhœa contributed 10 deaths, scarlet fever and diphtheria 3 deaths each, and whooping cough 2 deaths. Scarlet fever was introduced from neighbouring towns and spread rapidly; 88 cases were notified, but fortunately the disease was of a mild type. School closure was resorted to at the end of June. Typhoid fever gave rise to only 1 case, diphtheria and membranous croup 4 cases, and erysipelas 10 cases.

Hospital Accommodation is provided at the Burnley, &c., joint sanatorium. Eight cases of scarlet fever were removed.

Disinfection.—Steam apparatus at Burnley is available.

Water Supply obtained from the Nelson Corporation reservoirs.

Sewerage, Scavenging, &c.—Sewage is treated on the biological system. The Chief Inspector of the Ribble Joint Committee reported in July that the tanks are not sufficiently large for the needs of the district. Scavenging is performed under the supervision of the Authority.

Sanitary Inspection.—Five houses were condemned as unfit for human habitation. Bakehouses, slaughter-houses, dairies, and cowsheds were found generally in good sanitary condition. Unfortunately dairy, &c., regulations are not in force. Canal boats passing through the district undergo inspection. The Inspector (Mr. Halstead) served 62 notices, and secured the abatement of 61 nuisances.

Carnforth.—(Area in acres, 1,505; Census Population, 3,040).—*Medical Officer of Health*, Edward S. Jackson, M.B.; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 6 years, 1895-1900.
Birth-rate	30·2	27·7	29·6
Death-rate	10·8	18·6	12·1
Zymotic death-rate	1·31	0·33	0·58
Phthisis ,,	0·32	0·67	0·95
Respiratory ,,	1·97	4·06	2·05
Rate of deaths under 1 year to 1,000 births	86	146	98

As compared with 1900 the birth-rate showed an increase of 2·5, and the death-rate a decrease of 7·8 per 1,000 of the population. The zymotic rate is entirely accounted for by 4 deaths from typhoid fever. Twelve cases of infectious disease were notified, viz., typhoid fever 6, diphtheria 5, and erysipelas 1.

Hospital Accommodation.—Nil.

Disinfection.—No proper apparatus.

Water Supply described as "good."

Sewerage, Scavenging, &c.—The sewage is discharged into a settling tank, the sludge being used for agricultural purposes and the effluent runs into tidal waters. Scavenging is efficiently performed by contract.

Sanitary Inspection.—Regulations under the Dairies, Cowsheds, and Milkshops Order have not yet been adopted. Bakehouses and slaughter-houses appear to be well kept, and the canal boats inspected were found clean. To secure the abatement of 46 nuisances 35 notices were required.

Chadderton.—(Area in acres, 3,082; Census Population, 24,892.)—*Medical Officer of Health*, Harold Ashton, L.R.C.P.; *Salary*, £65.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate.....	27·0 ...	25·8 ...	28·4
Death-rate	20·0 ...	19·2 ...	18·6
Zymotic death-rate.....	2·81 ...	2·07 ...	2·21
Phthisis ,, ...	1·60 ...	1·50 ...	1·36
Respiratory ,, ...	3·49 ...	3·54 ...	4·04
Rate of deaths under 1 year to 1,000 births.....	169 ...	207 ...	176

The Census showed that the population had been over-estimated by 1,608 persons. The mortality statistics under review—with the exception of the respiratory and infant rates—do not compare favourably with 1900 or the mean of the preceding decade. With a view to reducing the infantile mortality handbills were issued giving advice as to the feeding and general management of infants. A severe epidemic of measles visited the district in September, and was responsible for 24 deaths; most of the schools were closed, and handbills advising certain precautions were distributed to every house.

Diarrhœa was the cause of 14 fatalities and whooping cough 11. Scarlet fever, although not so prevalent as in 1900, was responsible for 112 cases 7 deaths, and diphtheria—associated with membranous croup—caused 55 cases 13 deaths. The remaining notifications were typhoid fever 3 cases (1 fatal), and erysipelas 9 cases. Many of the infectious cases were directly traceable to a filthy condition of the house and locality in which they occurred, combined in some instances with drainage defects, unpaved backyards, &c.

Hospital Accommodation.—Provision is made for the treatment of small-pox cases at the joint hospital at Cinder Hill, but for ordinary infectious diseases the Oldham Corporation hospital has to be relied upon. Only 10 cases of scarlet fever were removed during the year under report.

Disinfection.—Steam apparatus is provided at the small-pox hospital.

Water Supply, obtained from the Oldham Corporation waterworks, is described as "good."

Sewerage, Scavenging, &c.—The Chief Inspector of the Mersey and Irwell Joint Committee reported in November that "there has been great delay in getting the contracts let for the completion of the intercepting sewers." The Authority undertake the scavenging, the refuse being disposed of on farms.

Sanitary Inspection.—No details are given as to the sanitary work carried out in the district except on the County Form C. Two insanitary houses were closed and demolished. Bakehouses, slaughter-houses, and dairies and cowsheds are said to be in good condition, but the latter do not comply with the regulations as to air space. Forty-three notices were issued, and 35 nuisances abated.

Childwall.—(Area in acres, 830; Census Population, 219). *Medical Officer of Health*, Henry Harvey, M.B.; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	13·6	4·5	16·9
Death-rate	nil.	4·5	7·8
Zymotic death-rate	nil.	nil.	0·48
Phthisis ,,	nil.	nil.	nil.
Respiratory ,,	nil.	nil.	0·97
Rate of deaths under 1 year to 1,000 births	nil.	1000	185

For the fourth time within the past decade not a single death took place during the year. The only case of infectious disease notified was typhoid fever, and this was contracted outside the district.

Hospital Accommodation.—An arrangement exists by which infectious cases from this district can be removed to the Liverpool Corporation hospital.

Disinfection.—No apparatus.

Water Supply excellent, obtained from Liverpool Corporation waterworks.

Sewerage, Scavenging, &c.—The sewage flows into cesspools situated in the fields; the overflow—if any—finds its way into a small stream. House refuse is removed by occupiers on to the land.

Sanitary Inspection.—There is a long-felt want of cottage accommodation for the men employed on farms, and this at times leads to overcrowding of the existing cottages. The only cowshed in the district is kept very clean, but the amount of air space is insufficient. There are no bakehouses, slaughter-houses, or lodging-houses. No proceedings for the abatement of nuisances have been required during the year.

Chorley (Borough).—Area in acres, 3,614; Census Population, 26,852).—*Medical Officer of Health*, Jas. A. Harris, M.D. (Lond.); *Salary*, £60 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	28·2	26·6	32·3
Death-rate	18·0	21·3	21·4
Zymotic death-rate	1·37	2·00	2·24
Phthisis ,,	0·96	0·88	1·26
Respiratory ,,	2·42	4·37	4·08
Rate of deaths under 1 year to 1,000 births	181	225	194

The general death-rate is the lowest recorded during the past ten years, and the zymotic, phthisis, respiratory, and infant rates are below the average. The latter rate, however, is still high, and the mortality could, no doubt, be diminished if more care and attention were given to children, especially in the direction of proper and judicious feeding. Measles was prevalent in the last quarter of the year, and necessitated closure of the infants' department of three schools. Ten deaths resulted from this disease, and diarrhœa accounted for 19 fatalities. Ninety cases of scarlet fever were notified, 88 per cent. receiving hospital isolation; 4 deaths took place, 3 in hospital and 1 at home. In one instance a magistrate's order was obtained to enforce removal. Typhoid fever gave rise to 38 cases 3 deaths, diphtheria and membranous croup 23 cases 3 deaths, erysipelas 13 cases, and puerperal fever 2 cases.

Hospital Accommodation.—The joint isolation hospital at Heath Charnock was opened for the reception of patients on the 27th of April. Ninety-two cases have been admitted from this district, viz., scarlet fever 80, typhoid fever 11, and diphtheria 1.

Disinfection.—Goddard, Massey, and Warner's steam apparatus provided; 1,894 infected articles were disinfected.

Water Supply good; obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—The report of the Chief Inspector of the Ribble Joint Committee shows that, on the whole, the effluents from the various outfall works are satisfactory. A loan of £2,038 was sanctioned for purposes of sewerage and sewage disposal in the Cowling and Crosse Hall districts, and the work will shortly be proceeded with. The filters at the Common Bank outfall works have been considerably extended. The Authority undertake the scavenging. Refuse is at present deposited on tips, but a loan of £7,646 has been sanctioned by the Local Government Board for the erection of a refuse destructor.

Sanitary Inspection.—Bakehouses, slaughter-houses, and lodging-houses are well kept, and the dairies and cowsheds, on the whole, comply with the regulations. The sanitary arrangements at the factories and workshops are generally good. The Medical Officer of Health recommends the Council to insist upon the abatement of the long standing nuisance caused by offensive smells issuing from the oilcloth works. The Company have for some time been carrying out experiments to mitigate the cause of complaint, but so far without any appreciable diminution of the effluvia emitted. The scheme for converting pail closets to the water-carriage system is now nearly completed, 923 such conversions taking place during 1901. The Inspector (Mr. Cunliffe) served 1,793 notices, and succeeded in abating nearly all the nuisances he took in hand. Legal proceedings were successfully instituted in 4 instances. Smoke observations are taken occasionally.

Church.—(Area in acres, 529 ; Estimated Population, 6,500.)
Medical Officer of Health, A. B. Craig, M.B. ; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	25·5	23·0	28·8
Death-rate	19·3	17·6	17·5
Zymotic death-rate	3·07	3·52	2·48
Phthisis ,,	1·69	0·73	1·09
Respiratory ,,	3·23	4·55	4·37
Rate of deaths under 1 year to 1,000 births	222	121	160

The decline in the birth-rate which has been taking place for some years was arrested during the period under report. The general death-rate and the zymotic rate were above the average of the 10 years 1891-1900, and an unusually high infant mortality prevailed. Dr. Craig states that many of the infant deaths—ascribed to diarrhœa and convulsions—were directly due to improper and careless feeding. Diarrhœa caused 16 deaths and whooping cough 1 death. Scarlet fever —prevalent from June to September—gave rise to 57 cases 1 death, typhoid fever 6 cases, diphtheria and membranous croup 4 cases 2 deaths, erysipelas 2 cases, and puerperal fever 1 case.

Hospital Accommodation nil.

Disinfection.—A "disinfecting chamber" is provided at the gas works.

Water Supply obtained from the Accrington, &c., Joint Board is described as very good.

Sewerage, Scavenging, &c.—Sewage receives treatment at the joint outfall works at Coppy Clough. The filter beds have been extended, and further improvements are contemplated. The Authority undertake the scavenging.

Sanitary Inspection.—"Steady progress has been made in the conversion of closets to the water-carriage system." Slaughter-houses, bakehouses, dairies, and cowsheds have been subjected to regular inspection, and have all been found in satisfactory condition. Canal boats passing through the district are inspected, and attention is given to the sanitary condition of factories and workshops. The Inspector served 145 notices for the abatement of nuisances. Twenty smoke observations were taken.

Clayton-le-Moors.—(Area in acres, 1,059; Estimated Population, 8,200.)—*Medical Officer of Health*, L. Tattersall, M.R.C.S.; *Salary*, £30.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	28·0	28·5	29·5
Death-rate	13·7	19·4	17·1
Zymotic death-rate	1·34	2·55	2·21
Phthisis ,,	1·34	0·55	1·06
Respiratory ,,	2·80	3·22	3·37
Rate of deaths under 1 year to 1,000 births	143	194	162

Dr. Tattersall presents mortality statistics which compare very favourably with those of 1900; the death-rate is reduced 5·7 per 1,000, the zymotic rate 1·21, and the infantile mortality is 143 against 194. The zymotic deaths were due to the following causes—diphtheria and membranous croup 6, diarrhœa 3, measles 1, and typhoid fever 1. Scarlet fever, of a mild type, gave rise to 46 cases, and the remaining notifications were typhoid fever 10, diphtheria and membranous croup 14, and erysipelas 15.

Hospital Accommodation nil. A joint scheme has been under consideration, but so far without any practical result.

Disinfection.—No apparatus.

Water Supply.—The general purity of the water has improved by filtration.

Sewerage, Scavenging, &c.—The sanction of the Local Government Board was obtained to borrow £12,120 for the construction of additional works for the bacterial process of sewage treatment, but some delay has taken place in carrying out the work. Scavenging, performed by the Authority, gives satisfaction.

Sanitary Inspection.—Bakehouses and slaughter-houses are in good condition, but improvements are desirable at some of the cowsheds in the form of better drainage, efficient ventilation, and more cubic space. Many conversions of privies to water-closets took place during the year, and this latter system is now generally adopted in the district. All the nuisances coming under observation were remedied, few notices being required. Several smoke observations were taken.

Clitheroe (Borough).—(Area in acres, 2,385; Estimated Population, 11,450).—*Medical Officer of Health*, JOHN J. FRASER, M.R.C.S.; *Salary*, £40.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years 1891-1900.
Birth-rate	22·9	21·3	26·8
Death-rate	15·9	16·2	17·1
Zymotic death-rate	1·74	1·89	1·94
Phthisis ,,	0·78	1·03	1·08
Respiratory ,,	2·70	2·41	2·95
Rate of deaths under 1 year to 1,000 births	163	165	143

The mortality statistics for the period under review compare favourably with the preceding year, and with the exception of the infantile mortality, are below the average of the 10 years, 1891-1900. Whooping cough, with 7 deaths,

was the most fatal of the zymotic diseases; scarlet fever caused 6 deaths, diarrhœa 3, typhoid fever 2, and membranous croup 2. Of the 127 notifications scarlet fever was responsible for 118; this disease appeared in July, 1899, and has ever since been more or less constantly present. Some of the elementary schools were closed after the Christmas holidays in consequence of the epidemic, and cleansing and disinfection took place. Notifications were received concerning typhoid fever 3 cases, and membranous croup, erysipelas, and puerperal fever 2 cases each. In October Dr. Fraser presented a report to the Council on the occurrence of typhoid fever during the years 1889-1900.

Hospital Accommodation nil.

Disinfection.—No apparatus.

Water Supply is of excellent quality and free from risk of pollution.

Sewerage, Scavenging, &c.—In November the Ribble Joint Committee resolved that proceedings be instituted against the Corporation unless reasonable steps be taken for the letting of the contracts in connection with the outfall works extensions. Since then tenders have been obtained. Scavenging is performed by the Authority; a serious nuisance arises during the time the collecting carts are at work.

Sanitary Inspection.—In the older parts of the town many of the houses are low, and the bedroom accommodation not infrequently defective. The number of back-to-back houses, and houses without back doors, are being slowly reduced, but there are still 292 cottages of this objectionable class. Dairies and cowsheds receive periodical inspection; they are kept clean, but some of them are badly ventilated and lighted, and the drainage is defective. Bakehouses (22) and lodging-houses (3) are well conducted. The 6 private

slaughter-houses are described as "fairly good," but the public abattoir is too small for the number of butchers slaughtering there. The Inspector (Mr. Davies) reports that 25 notices were served, and that 302 nuisances were abated without formal notice. Twelve smoke observations were taken.

Colne (Borough).—(Area in acres, 5,063; Census Population, 23,000).—*Medical Officer of Health*, W. Lyons Lovett, L.R.C.P.E.; *Salary*, £80.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	27·3	26·2	30·0
Death-rate	14·3	14·9	16·4
Zymotic death-rate	1·43	1·64	2·24
Phthisis ,,	0·91	0·88	1·11
Respiratory ,,	2·91	3·28	4·16
Rate of deaths under 1 year to 1,000 births	170	179	166

The Census showed that the population of last year had been over-estimated by 2,000. The mortality statistics on the whole compare favourably with last year's rates and—with the exception of the infant mortality—with the mean of the 10 years 1891-1900. For two years in succession measles has not caused a single fatality. Whooping cough—prevalent in the last quarter—gave rise to 7 deaths, and 12 deaths were ascribed to diarrhœa. There was a considerable decrease in the number of scarlet fever notifications, only 39 being received, against 105 last year, and 94 and 152 in the two previous years. Typhoid fever contributed 10 cases 4 deaths, diphtheria and membranous croup 23 cases 8 deaths, erysipelas 36 cases, and puerperal fever 3 cases. In cases of typhoid fever and diphtheria bacteriological examination, free of charge, was offered by the Council, but few medical men took advantage of this privilege. Three cases of typhoid fever

were submitted to Widal's test; 2 gave a positive and one a negative reaction.

Hospital Accommodation nil. The scheme, for which complete plans and estimates were prepared last year, has been abandoned. A provisional Joint Committee with Nelson is at present considering the advisability of forming a Joint Hospital Board.

Disinfection.—No proper appliances. Houses are fumigated either with sulphur or formalin.

Water Supply is described as good.

Sewerage, Scavenging, &c.—Plans and estimates for extensions at the sewage works, at a cost of £10,500, are now before the Local Government Board. The scheme includes large extensions to sedimentation tanks, construction of bacteria beds, new detritus chambers, sludge lagoons. &c. Scavenging is carried out by the officials of the Council in a satisfactory manner. The refuse destructor has proved of great value.

Sanitary Inspection.—Slaughter-houses receive frequent inspection, and, with the exception of two minor breaches of the bye-laws, have been conducted satisfactorily. Although the public abattoirs were opened in April, 1899, there are still no permanent tenants. Bakehouses, lodging-houses, factories, and workshops have, with few exceptions, complied with sanitary requirements. Dairies, cowsheds, and milkshops, are systematically inspected; complaints are again made regarding the filthy condition of many shippons. Notices have been served upon every cowkeeper requiring him to conform with the dairy, &c., regulations, especially as to cleansing and limewashing. During the year 69 privies were converted to water-closets. The Inspector (Mr. Sugden) served 420 notices, secured the abatement of 387 nuisances, took 6 smoke observations, &c.

Crompton.—(Area in acres, 2,865; Census Population, 13,427.)—*Medical Officer of Health*, William Brooke, M.A., M.D.; *Salary*, £60.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	26·3	23·1	27·2
Death-rate	16·9	19·8	18·9
Zymotic death-rate	1·19	2·46	1·78
Phthisis ,,	0·59	1·00	1·31
Respiratory ,,	3·05	4·80	4·11
Rate of deaths under 1 year to 1,000 births	118	230	186

According to the Census return the population in the previous year had been over-estimated by 1,573 persons. The falling away of the population at the end of the decade is attributed to emigration consequent on the closure of one of the cotton mills. As compared with last year an increase in the birth-rate of 2·8 per 1,000 is accompanied by a decrease in the death-rate equal to 2·9, and considerable reductions in the zymotic, phthisis, respiratory, and infant rates. Diarrhœa, with 7 deaths, was the most fatal of the zymotic diseases; diphtheria and membranous croup contributed 6 deaths; typhoid fever 2, and whooping cough 1. Measles did not cause any fatality, but about the middle of December on becoming prevalent amongst the children attending one of the schools, immediate closure was adopted by the managers. Scarlet fever gave rise to 37 cases, some of which, in the opinion of Dr. Brooke, might have been prevented if hospital accommodation and proper means of disinfection had been available. The other notifications were diphtheria and membranous croup 17 cases, erysipelas 10, typhoid fever 4, and puerperal fever 2.

Hospital Accommodation is provided at Cinder Hill for small-pox cases only. Two typhoid fever patients were admitted into the Oldham Corporation hospital.

Disinfection.—No proper appliances.

Water Supply described as good.

Sewerage, Scavenging, &c.—The drainage of the greater portion of the district is now completed, and the purification of the sewage is carried out at the Low Crompton and Newhey outfall works. On two occasions the Mersey and Irwell Joint Committee complained as to the character of the effluent from the latter works. Scavenging is said to be efficiently performed by the officials of the Council, but some difficulty is experienced in disposing of the refuse. A destructor would be valuable.

Sanitary Inspection.—The condition of dairies, cowsheds, and milkshops is described as "fairly good," but it is to be regretted that the Council have not yet adopted regulations under the Dairies, &c., Order. Slaughter-houses and the one common lodging-house are well conducted. The Inspector served 5 notices and sent 20 letters relating to nuisances, all of which received attention, two after the institution of legal proceedings.

Croston.—(Area in acres, 2,347; Census Population, 2,102.) *Medical Officer of Health,* Alfred Duckworth, L.R.C.P.E.; *Salary,* £20.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	24·2	23·3	30·4
Death-rate	10·9	12·5	16·8
Zymotic death-rate	0·47	nil.	1·85
Phthisis ,,	0·47	0·44	0·65
Respiratory ,,	1·90	1·78	3·06
Rate of deaths under 1 year to 1,000 births	78	76	150

The mortality statistics continue to be of a satisfactory character. The general death-rate is the lowest recorded

during the 10 years 1891-1900, and the zymotic and infant rates are much below the average. Only 1 death was attributed to zymotic disease, viz., scarlet fever. Twenty-three notifications were received—scarlet fever 20, typhoid fever 2, and erysipelas 1.

Hospital Accommodation.—The Medical Officer of Health draws attention to the necessity of some provision being made for isolating cases of infectious disease, more especially for small-pox cases.

Disinfection.—House fumigation with sulphur is carried out, but there is no apparatus for the disinfection of infected clothing, bedding, &c.

Water Supply is described as "fairly good."

Sewerage, Scavenging, &c.—In November the Chief Inspector of the Ribble Joint Committee reported that "the system of sewers and the outfall works have been completed and are now in operation. Over a hundred houses have been connected, and the remaining connections are being pushed forward." Now that the sewers are completed the Medical Officer of Health intends to give special attention to all ditches into which sewage formerly ran. The Authority undertake the scavenging, refuse being used for agricultural purposes.

Sanitary Inspection.—Bakehouses and slaughter-houses are on the whole well kept. Dairies, cowsheds, and milk-shops do not receive any attention from the Council's officials. This is difficult to understand, and I recommend the adoption of dairy, &c., regulations under the Order of the Local Government Board, and proper supervision by the Sanitary Inspector. Thirteen notices were served for the abatement of nuisances.

Dalton-in-Furness.—(Area in acres, 7,990; Census Population, 13,020.)—*Medical Officer of Health*, G. H. Patterson, M.R.C.S.; *Salary*, £100.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	31·7	33·4	30·4
Death-rate	17·2	20·6	15·6
Zymotic death-rate	1·30	4·66	1·86
Phthisis ,,	1·30	1·50	1·01
Respiratory ,,	2·99	3·15	3·13
Rate of deaths under 1 year to 1,000 births	166	157	139

As compared with 1900 the death-rate and zymotic rate declined 3·4 and 3·36 per 1,000 of the population respectively, but the proportion of deaths under 1 year to 1,000 births was slightly increased. Measles, which last year caused 39 deaths, did not give rise to a single fatality during the year under review. Whooping cough contributed 3 deaths and diarrhœa 13, against 11 and 6 respectively in 1900. Scarlet fever had a diminished prevalence, only 19 cases being notified. Typhoid fever was the cause of 16 cases, 12 of which were attributed to insanitary condition of dwelling-houses or immediate surroundings. Diphtheria was responsible for 3 cases 1 death, erysipelas 17 cases, and puerperal fever 1 case.

Hospital Accommodation.—Twenty-one cases were treated in the joint sanatorium at High Carley—10 scarlet fever and 11 typhoid fever.

Disinfection.—No apparatus. Seventeen houses were fumigated.

Water Supply. Within the radius of the mains "no inconvenience was caused through scarcity of water, neither was there any complaint as to its purity." Some of the more

scattered parts have to rely on stored rain water, but negotiations are pending for a more satisfactory supply.

Sewerage, Scavenging, &c.—Sewage is treated by subsidence in tanks and then discharged into the sea. Complaints have been made by a neighbouring Authority of a nuisance arising from the effluent of the new sewage disposal works at Newton, and such alterations and improvements are in contemplation as will, it is hoped, remove all cause of complaint. Several lengths of main sewer have been laid during the year; the sewers and house drains are flushed and disinfected. Scavenging is efficiently done by the Authority.

Sanitary Inspection.—Systematic house-to-house inspection of the district has taken place. Bakehouses are described as "fair," but slaughter-houses are "only moderate." The infringement of the lodging-house bye-laws referred to last year culminated in a prosecution and the infliction of a penalty. Dairies, cowsheds, and milkshops are in fair condition. Seventy privy-middens were during the year converted to the water-carriage system. The Inspector (Mr. Procter) reports the service of 120 notices relating to nuisances on 154 premises.

Darwen (Borough).—(Area in acres, 5,959; Census Population, 38,212.)—*Medical Officer of Health*, F. G. Haworth, M.B., D.P.H.; *Salary*, £200.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	22·4	25·3	29·0
Death-rate	16·2	20·4	17·6
Zymotic death-rate	2·30	3·26	2·00
Phthisis ,,	0·75	0·75	0·88
Respiratory ,,	3·61	4·45	4·05
Rate of deaths under 1 year to 1,000 births	168	191	170

The decline in the birth-rate continues; the average for

the present year is the lowest recorded during the past 20 years. The general death-rate shows a reduction of 4·2 per 1,000 as compared with last year, and the zymotic, respiratory, and infant rates are more favourable. Dr. Haworth again gives statistics as to the deaths in regard to occupation, a continuous record of which will demonstrate the particular diseases to which certain workers are liable, and consequently enable measures to be adopted to avert the dangers of such occupation. Diarrhœa was the cause of 17 deaths, whooping cough 11, and measles 7; in dealing with the latter disease school closure was resorted to. Scarlet fever again had an extensive prevalence with 231 cases and 14 deaths; in the preceding year 277 cases with 11 deaths occurred, and in 1899 no less than 400 cases were notified, and 22 deaths resulted. Diphtheria—associated with membranous croup—was also responsible for much sickness, the notifications numbering 207 and the deaths 35; last year 190 cases and 45 deaths occurred. In consequence of the prevalence of this disease the Town Council in June requested the Local Government Board to cause inquiry into the epidemic to be made by one of their Inspectors. Such inquiry commenced in October, and the recommendations of the Inspector are appended to this digest. Typhoid fever was the cause of 21 cases 4 deaths, erysipelas 34 cases, continued fever 3 cases, and puerperal fever 1 case.

Hospital Accommodation at Bull Hill, consisting of 20 beds and 4 cots, is inadequate for the requirements of the district. Out of the large number of notifications only 44 cases received hospital isolation, viz., scarlet fever 41 and diphtheria 3. No provision is made for small-pox cases. The Medical Officer of Health proposes, in the event of an outbreak of this disease, to send the scarlet fever patients in the hospital at the time to their respective homes, and allow the small-pox cases to at once take their place. To avoid this unusual arrangement the Council ought to provide separate accommodation for such an emergency.

Disinfection.—Houses disinfected with sulphur and equifex spray. Bedding, clothing, &c., is stoved in the steam apparatus at the hospital.

Water Supply adequate. The reservoirs are the property of the Corporation, who have now acquired the whole area of the watershed.

Sewerage, Scavenging, &c.—Sewage is treated at two outfall works. An additional sludge lagoon has been constructed, more precipitants are used, and more attention is paid to the washing of the filters. Scavenging is satisfactorily performed by the Authority, the refuse being burnt in the destructor.

Sanitary Inspection.—House accommodation continues to improve, but many back yards of old property require to be paved or flagged. Three houses were condemned as unfit for human habitation. Bakehouses and slaughter-houses are kept in good sanitary condition, and the only lodging-house is managed by the Corporation. "Farms and dairies receive full attention in so far as enforcing the bye-laws in regard to cleanliness is concerned." Many alterations and improvements have been carried out in the sanitary arrangements of factories and workshops. The Inspector (Mr. Marsden) served 1,223 notices relating to 1,081 nuisances, of which 987 were abated. Attention was given to the smoke nuisance, 129 observations being taken, and in 13 instances legal proceedings followed.

The recommendations of the Local Government Board Inspector referred to above are as follows :—

(1.) *Isolation Provision.*—The Town Council should provide increased accommodation for the isolation of cases of infectious illness, so that two or more forms of infectious disease may be dealt with at one and the same time.

(2.) *Sewerage.*—The sewers of the town should be thoroughly overhauled. All catchpits which retain deposited sewage should be removed and replaced by

properly constructed inspection chambers. Sewers which have been laid with insufficient fall should be relaid, and measures taken for providing ventilation and flushing where needed. Steps should be taken to prevent the entry of steam or hot water into the sewers.

(3.) *Excrement Disposal.*—The Town Council should use every endeavour to replace the pail closets in the district by water-closets or slop-water closets. Where the latter form of closet is in use measures should be taken for periodical examination to see that it is in working order, and for the cleansing of yard gulleys, in order to prevent the washing of deposit from the gulleys into the tumbler of the closet.

(4.) *Action with regard to Nuisances.*—A house-to-house inspection of the town should be made for the detection of nuisances, such as defective house drainage, defective paving of yards, foul closets, uncovered ash-pits or ash tubs ; and measures should be taken for the remedy of such conditions.

Denton.—(Area in acres, 2,594; Estimated Population, 14,962.)—*Medical Officer of Health*, F. W. Allkin, M.B.; *Salary*, £40 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	23·1	27·9	27·4
Death-rate	16·7	18·8	18·4
Zymotic death-rate	1·0	2·09	1·69
Phthisis ,,	1·73	1·63	1·37
Respiratory ,,	2·20	3·66	3·30
Rate of deaths under 1 year to 1,000 births	160	170	186

The birth-rate shows a reduction of 4·8 per 1,000 as compared with last year, and is the lowest recorded during the preceding decennial period. The general death-rate declined

2·1, and the zymotic, respiratory, and infant rates were more satisfactory. Referring to the latter rate, Dr. Allkin says "the improper feeding and want of cleanliness of infants is, in my opinion, the cause of quite half the number of deaths." Measles caused only 1 death, and the district was particularly free from this disease until December, when numerous cases occurred, and subsequently spreading in epidemic form almost throughout the district. Diarrhœa gave rise to 7 deaths. Scarlet fever was responsible for 91 cases, but no death resulted; the spread of this disease is attributed to the unsuitability of many homes for reasonable isolation, and carelessness in visiting infected houses. Diphtheria, associated with membranous croup, was the cause of 17 cases 3 deaths; the majority of the attacks occurred in September, and the Medical Officer of Health is of opinion that they were probably caused by the foul emanations of sewer gas due to the want of rain water to flush and cleanse the sewers. Typhoid fever contributed 7 cases 4 deaths, erysipelas 16 cases, and puerperal fever 6 cases. Voluntary notification of phthisis is recommended, together with disinfection of houses where phthisical patients have lived.

Hospital Accommodation.—Six patients were removed to hospital, viz., scarlet fever 3, typhoid fever 2, and diphtheria 1. Only two beds are available at the Hyde Corporation hospital for the use of this district, and Dr. Allkin urges the Council to obtain further accommodation, and also to make provision in case of an outbreak of small-pox.

Disinfection.—No proper appliances. Disinfector urgently needed.

Water Supply, obtained from Manchester, described as good and wholesome.

Sewerage, Scavenging, &c.—Sewage is dealt with by precipitation in tanks and subsequent filtration through polarite filters. Scavenging is performed by the Council, and it is satisfactory to note that the work is now carried out in the

night-time instead of as formerly during the day.

Sanitary Inspection.—Bakehouses, slaughter-houses, milk-shops, dairies, and cowsheds are frequently inspected, and improvements in drainage and ventilation have been carried out. Dairy, &c., regulations are in force, but the air space required, viz., 400 cubic feet per cow, is too low. The Inspector served 34 notices, and nearly all the nuisances referred to therein were abated. Legal proceedings were successfully instituted in 3 instances.

Droylsden.—(Area in acres, 1,010; Estimated Population, 11,100.)—*Medical Officer of Health*, Andrew Gellatly, M.B.; *Salary*, £25 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	28·4	29·6	31·0
Death-rate	16·7	17·6	18·2
Zymotic death-rate	2·97	1·60	2·13
Phthisis ,,	0·54	1·06	1·11
Respiratory ,,	3·42	4·08	4·32
Rate of deaths under 1 year to 1,000 births	151	170	168

With the exception of the zymotic rate the mortality statistics under review compare favourably with last year's rates, and with the averages of the 10 years 1891-1900. The increase in the zymotic rate is due principally to the deaths from diarrhœa and whooping cough—16 and 8 respectively. Measles, which is notifiable in this district, gave rise to 104 cases and 2 deaths. The Order placing measles on the list of notifiable diseases expires shortly, and Dr. Gellatly reports that he cannot advise the Council to renew it as the benefit derived is so limited. A case of small-pox occurred in May, and was promptly removed to hospital; the source of infection could not be traced. Scarlet fever of a mild character was the cause of 56 cases 1 death, typhoid fever contributed

8 cases 1 death, diphtheria and membranous croup 17 cases 5 deaths, erysipelas 7 cases, and puerperal fever 1 case.

Hospital Accommodation.—In addition to the small-pox case mentioned above, 2 cases of scarlet fever were removed to the Hyde Corporation hospital, where 2 beds are reserved for the use of this district.

Disinfection.—Houses fumigated with formaldehyde gas.

Sewerage, Scavenging, &c.—The Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent from the outfall works on two occasions, August and November. It is proposed to extend the filtration area. Scavenging is performed under the supervision of the Inspector. A refuse destructor is needed. Many of the private streets and numerous backyards and passages are in bad condition, and require immediate attention.

Sanitary Inspection.—Little information is given as to the sanitary work carried out. Fourteen notices to abate nuisances on 92 premises were served, and at 42 houses insanitary conditions were remedied without the necessity of issuing formal notice.

Eccles (Borough).—(Area in acres, 2,057; Estimated Population, 34,500.)—*Medical Officer of Health*, W. M. Hamilton, M.D., D.P.H.; *Salary*, £150 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	26·9	25·0	27·5
Death-rate	16·6	16·9	17·0
Zymotic death-rate	2·72	2·49	2·60
Phthisis ,,	1·24	1·04	1·38
Respiratory ,,	2·72	2·93	3·02
Rate of deaths under 1 year to 1,000 births	164	158	166

The recent Census revealed the fact that the population in

the previous year had been over-estimated by more than 2,000. The death-rate was slightly below the average of preceding years, and on the whole favourable. The zymotic, phthisis, and infantile death-rates were somewhat higher than in 1900, although the two latter rates were below the mean of the past 10 years. The death-rate was highest in Irwell Ward (25·2), and lowest in Monton and Park Ward (9·1). Of the zymotic diseases scarlet fever was the most prevalent with 143 cases and 10 deaths; in 1900 there were 254 scarlet fever cases notified with 12 deaths. Diphtheria was the cause of 78 cases and 12 deaths; typhoid fever 54 cases and 9 deaths, measles 12 deaths, and whooping cough 5 deaths. There were 51 deaths from diarrhœa, 44 being below the age of five years; the greatest prevalence took place from July to September; in 1900 the diarrhœa deaths numbered 44. In 43 cases of diphtheria swabs were taken from the throats of patients, and forwarded to Professor Delépine for bacteriological examination. In 12 cases the characteristic bacilli were found. Forty-four specimens of blood from typhoid patients were also submitted to Widal's test, and in 13 cases a positive reaction was obtained. Dr. Hamilton reports that it is gratifying to notice that the facilities offered by the Corporation for free bacteriological examination of blood from doubtful cases of typhoid fever are being more largely taken advantage of by the medical profession.

Hospital Accommodation.—Infectious cases are treated by arrangement with the Salford Corporation at Ladywell. Altogether 146 patients, equal to 50 per cent. of the total number of cases notified, were removed, viz., scarlet fever 65, diphtheria 49, typhoid fever 30, puerperal fever 1, and erysipelas 1. In 1900 the percentage of notified cases to removals was 38·5 per cent, and 44·5 per cent. in 1899.

Disinfection.—Clothing, bedding, &c., are subjected to superheated steam in Washington Lyons apparatus; rooms sprayed with solution of perchloride of mercury, and afterwards

fumigated with sulphur numbered 373, and 10 schoolrooms were disinfected.

Water Supply is obtained from the Manchester Corporation, and as a rule excellent. In the autumn, owing to diminished supply, the quality was in many cases far from satisfactory, and warning had to be given that water should be boiled.

Sewerage, Scavenging, &c.—The sewage is treated on land, 71¼ acres in extent, under a dual system, viz., broad irrigation (58 acres), and intermittent downward filtration (3 acres). The sewage dealt with daily, according to gaugings in February, showed 1,400,000 gallons. No precipitants are used. Scavenging is well carried out under the supervision of Mr. Laskey (Sanitary Inspector). The privy-pits in the borough number 2,847, eighty-five having been converted to water-closets during the year, while the ashpits have been reduced from 442 to 398. The weekly removal of house refuse from movable ashtubs is strongly advocated as more economical than privy-midden cleansing, and it is certainly more conducive to health.

Sanitary Inspection.—Great attention was paid to the sanitary needs of the borough. In the course of nuisance abatement 3,159 re-inspections were made—inspection of dwellings numbered 1,127, slaughter-houses 115, milkshops 145, cowsheds 111, common lodging-houses 59, bakehouses 100, workshops 24, van dwellings 52, canal boats 62, &c. Tests were applied to 389 drains, and in 223 instances the drains were opened up and examined; 115 houses had new drainage systems provided, and 324 house drains were cleansed and relaid. Thirty observations of mill and works' chimneys were taken during the year. In two instances proceedings before the Magistrates were taken and abatement Orders granted, the owners being fined costs in each case. Proceedings were also successfully taken in respect of non-compliance of notices to abate nuisances arising from bad

drains, &c. The scheme for clearing a large insanitary block of property situated in Oakham Bay, Timothy Street, and Back Timothy Street, comprising 72 occupied houses, 28 unoccupied houses, 22 shops (also used as dwellings), 5 lock-up shops, 5 beerhouses, and 8 nondescript buildings was the subject of an inquiry by an Inspector of the Local Government Board on the 13th of November, and subsequently the approval of the Board has been received. As shewing the magnitude of the scheme it may be mentioned that the contents of this area to be cleared are about 19,150 square yards. Practical sanitation of so sweeping a character would reflect the greatest credit on any Authority.

Failsworth.—(Area in acres, 1,072; Census Population, 14,152).—*Medical Officer of Health*, G. W. Beattie, M.D.; *Salary*, £50.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years. 1891-1900.
Birth-rate	30·5	31·3	32·4
Death-rate	18·1	19·4	18·8
Zymotic death-rate	2·68	1·86	2·23
Phthisis ,,	1·20	1·53	1·49
Respiratory ,,	2·89	4·06	3·90
Rate of deaths under 1 year to 1,000 births	155	170	173

As compared with last year the general death-rate shows a reduction of 1·3 per 1,000, and the proportion of infant deaths to births is more favourable, but there is a rise of 0·82 in the rate from the seven principal zymotic diseases. Measles, which caused 7 deaths, became epidemic in July amongst the children attending two of the schools in Higher Ward. The schools were closed for a period of five weeks and thoroughly cleansed and disinfected. Diarrhœa contributed 17 deaths and whooping cough 6. Scarlet fever, generally of a mild type, was responsible for 54 cases 3 deaths, typhoid fever 14

cases 4 deaths, diphtheria and membranous croup 7 cases 1 death, erysipelas 3 cases, and continued fever 2 cases.

Hospital Accommodation.—Twenty-five cases (17 scarlet fever and 8 typhoid fever) were removed to the Oldham Corporation hospital. The Council are, at the present time, considering the advisability of erecting a hospital for their own district, as negotiations with two adjoining Authorities for a joint scheme have proved abortive.

Disinfection.—No special apparatus provided; reliance being placed on formalin and sulphur fumigation. Occasionally infected articles are sent to Oldham for disinfection.

Water Supply, obtained from Oldham, is plentiful and of good quality.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. With the exception of an unsatisfactory effluent in August, the Mersey and Irwell Joint Committee had no complaint to make respecting the sewage treatment. Scavenging is carried out by the Authority, but requires more attention. The provision of a refuse destructor is under consideration.

Sanitary Inspection.—Twenty-two old houses were condemned as unfit for human habitation, and 10 houses were closed under the bye-laws in force for not having a proper supply of water. Bakehouses—with the exception of one underground—give satisfaction, and the slaughter-houses are kept in compliance with the bye-laws. Cowsheds consist chiefly of old buildings; they are not up to the standard of modern requirements, but are kept clean and in a sanitary condition. Factories and workshops, and premises where offensive trades are carried on, are under supervision. During the year 54 privy-middens and 4 pail closets were converted to the water-carriage system. The Inspector (Mr. Wharton)

reports that to secure the abatement of 339 nuisances he had to serve 89 notices. Forty-four smoke observations were taken, and the time limit of 8 minutes per hour was exceeded in 8 instances.

Farnworth.—(Area in acres, 1,504; Estimated Population, 26,000.)—*Medical Officer of Health*, A. Kershaw, M.D.; *Salary*, £40 (no claim).

Per 1.000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	28·6	28·2	32·3
Death-rate	19·0	19·3	20·4
Zymotic death-rate	3·61	3·03	2·64
Phthisis ,,	0·80	1·26	1·23
Respiratory ,,	3·19	3·23	3·86
Rate of deaths under 1 year to 1,000 births	223	208	220

The mortality statistics presented by Dr. Kershaw are above the average of the County urban districts, and cannot be considered satisfactory. The general death-rate shows a slight reduction as compared with last year, and is below the mean of the 10 years 1891-1900, but the zymotic and infant rates are increased. The latter rate—223 per 1,000 births—was chiefly influenced by epidemic diarrhœa which caused 37 deaths, and by the prevalence of measles and whooping cough which contributed 25 and 6 deaths respectively. Dr. Kershaw also attributes much of the terribly high infantile death-rate to the want of proper management in nursing and feeding young children. Scarlet fever was present throughout the year, 196 cases being notified with 9 deaths, 87 per cent. of the total cases were isolated in hospital. Typhoid fever gave rise to 51 cases 9 deaths; 84 per cent. of the cases were removed to hospital. The privy middens and unpaved backyards are said to be responsible for

the constant presence of this disease. Diphtheria and membranous croup contributed 21 cases 8 deaths, erysipelas 12 cases, puerperal fever 2 cases, and relapsing fever 1 case. During the months of August and September an epidemic of catarrhal jaundice prevailed. No deaths, however, occurred. The presence of this disease in an epidemic form has not been previously known in this country, and this and a concurrent epidemic prevailing in Derbyshire have been the subject of much interest to the medical profession.

Hospital Accommodation.—The joint hospital has again been extensively used, 222 patients being sent from this district, viz., scarlet fever 172, typhoid fever 43, diphtheria 6, and relapsing fever 1. The Medical Officer of Health draws attention to the fact that there is no hospital provision for small-pox. .

Disinfection.—Infected bedding, clothing, &c., undergo disinfection in the steam apparatus.

Water Supply is described as satisfactory.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. The Mersey and Irwell Joint Committee in April complained of an unsatisfactory effluent. Scavenging, done by the Authority, gives satisfaction; the refuse is deposited on tips.

Sanitary Inspection.—The bakehouses, slaughter-houses, and lodging-houses have been much improved, and regulations under the Dairies and Cowsheds Order are now being enforced. The Inspector served 155 preliminary and 73 statutory notices for the abatement of nuisances; altogether 1,037 nuisances were remedied, one after the institution of legal proceedings. Only one smoke observation was taken.

Fleetwood.—(Area in acres, 2,510; Estimated Population, 12,264.)—*Medical Officer of Health*, JOHN D. FAUSSET, B.A., M.D.; *Salary*, £80 (including £20 for the Port).

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	29·1	27·5	32·3
Death-rate	14·1	16·4	15·9
Zymotic death-rate	1·38	3·21	2·16
Phthisis ,,	0·32	0·42	1·01
Respiratory ,,	2·93	2·92	2·64
Rate of deaths under 1 year to 1,000 births	131	168	152

The Census showed that the population last year had been over-estimated by 1,918. Owing to the floating population, the Medical Officer of Health says the discrepancy is more apparent than real. The mortality statistics for the year under review are very satisfactory. Diarrhœa caused 12 deaths, improper feeding being, in the opinion of Dr. Fausset, responsible in each case. Measles contributed only 1 death. Fifty-one cases of scarlet fever were notified, 12 of typhoid fever with 4 deaths, 8 of erysipelas, and 2 of diphtheria.

Hospital Accommodation.—The joint hospital at Moss Side was completed during the year.

Disinfection.—Steam apparatus provided.

Water Supply obtained from Grizedale. It is good moorland water, very soft, and somewhat peaty.

Sewerage, Scavenging, &c.—Sewage is still discharged into tidal waters, but an improvement scheme is under consideration. The sewers are regularly flushed. Scavenging is properly carried out by the Council's men, the refuse being burnt in the destructor.

Sanitary Inspection.—Dairies, cowsheds, and milkshops are inspected monthly, and said to be in fairly good condition.

Slaughter-houses receive particular attention, a practical man devoting the whole of his time to the supervision of the premises and to the inspection of meat. The Inspector reports on 792 nuisances, which necessitated the service of 875 notices. Smoke observations are taken daily.

The Port Sanitary Authority.—No case of infectious disease occurred on any vessel entering the Port. The hospital continues in readiness for the reception of patients, but it has not been used since 1894. The Inspector examined 160 vessels, and in addition made 80 re-visits. When deemed necessary verbal orders for sanitary improvements were given, and in all cases these were complied with.

Fulwood.—(Area in acres, 2,116; Census Population, excluding Public Institutions, 2,870).—*Medical Officer of Health*, John Garth, L.R.C.P.I.; *Salary*, £30.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	21·9	21·2	23·9
Death-rate	11·4	12·7	13·3
Zymotic death-rate	0·34	nil.	0·58
Phthisis ,,	nil.	0·70	0·83
Respiratory ,,	1·04	3·18	2·72
Rate of deaths under 1 year to 1,000 births	63	66	96

The public institutions in this district have a population of 2,368, and, in calculating the various averages, the deaths in these places (176) are excluded. The mortality statistics for the year under review are of a satisfactory character, and compare very favourably with the 10 years 1891-1900. Only 1 death took place from the principal zymotic diseases, viz., typhoid fever. Forty-five notifications were received, of which scarlet fever contributed 38; the latter occurred chiefly in the spring. Typhoid fever was responsible for 2 cases, diphtheria 1 case, and erysipelas 4 cases.

Hospital Accommodation.—Still in abeyance.

Disinfection.—Dr. Garth draws attention to the necessity of an efficient disinfecting apparatus.

Water Supply good. During the summer the water was at times rendered turbid after a shower.

Sewerage, Scavenging, &c.—In October the contract was let for the new outfall works, estimated to cost £7,159, and the work is being carried out. Scavenging under the supervision of the Council's officials gives satisfaction.

Sanitary Inspection.—There are no bakehouses in the district. One slaughter-house has recently been erected, and is well kept. Dairies and cowsheds, subject to regulations, appear to be in good condition. A proper water supply has, during the year, been laid on to 4 farms. Only 3 notices were required for the abatement of nuisances. Frequent smoke observations are taken.

Garston.—(Area in acres, 1,673; Estimated Population, 18,800.)—*Medical Officer of Health*, J. A. Fisher, L.R.C.P.E.; *Salary*, £110.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate.....	29·8 ...	31·4 ...	32·4
Death-rate	16·1 ...	14·3 ...	15·4
Zymotic death-rate..... ...	2·87 ...	1·09 ...	2·37
Phthisis ,, ...	0·47 ...	0·69 ...	0·74
Respiratory ,, ...	3·61 ...	3·23 ...	3·63
Rate of deaths under 1 year to 1,000 births..	185 ...	167 ...	159

The population estimated at the middle of the year by Dr. Fisher is 1,512 above the figure given in the Census return. This marked advance is due to the rapidly increasing number of new houses, 275 of which have been tenanted since the

date of the Census. With the exception of the phthisis rate, the mortality statistics do not compare favourably with last year; the infant rate rose considerably. Measles and whooping cough prevailed somewhat extensively in June and July, and school closure was resorted to with beneficial results; the former disease was responsible for 7 deaths and the latter 12. Diarrhœa gave rise to 26 deaths against 16 in 1900. Scarlet fever, with 95 cases 2 deaths, prevailed throughout the year, generally in a mild form. Diphtheria and membranous croup caused 22 cases 6 deaths, typhoid fever 18 cases 1 death, erysipelas 25 cases, continued fever 7 cases, and puerperal fever 1 case.

Hospital Accommodation. — A small corrugated iron hospital with 7 beds was used for the isolation of 39 scarlet fever patients. In addition 4 cases were removed to the Liverpool Corporation hospital, viz., 1 scarlet fever and 3 typhoid fever. A small temporary building is kept in readiness for small-pox.

Disinfection. — Fraser's hot air disinfector available. Steam apparatus is contemplated.

Water Supply excellent, obtained from Liverpool.

Sewerage, Scavenging, &c.—Sewage is discharged into tidal waters. The drain testing apparatus revealed many defects; of 75 house drains tested only 6 were found sound. The officials of the Council carry out the scavenging in a satisfactory manner.

Sanitary Inspection.—Two houses unfit for human habitation were closed. Bakehouses (17), slaughter-houses (2), and lodging-houses (12) were generally found clean and in good sanitary condition. Dairy, &c., regulations have been complied with; sanitary improvements were made at 2 cowsheds respecting lighting and ventilation. During the year 217 privy-middens were converted to the water-carriage

system. The Inspector (Mr. Broughton) gives details of 2,509 nuisances dealt with; these necessitated the service of 1,001 notices, and in 2 instances legal proceedings followed. Thirty-eight smoke observations were taken.

Golborne.—(Area in acres, 1,679; Estimated Population, 7,000).—*Medical Officer of Health*, James Dobb, L.R.C.P.; *Salary*, £30.

Per 1,000 of Population.	1901.	1900.	Mean of 6 years. 1895-1900.
Birth-rate.....	33·0 ...	31·4 ...	34·3
Death-rate	14·7 ...	17·0 ...	18·0
Zymotic death-rate.....	3·28 ...	2·00 ...	2·28
Phthisis ,, ...	0·14 ...	0·57 ...	0·59
Respiratory ,, ...	3·14 ...	3·71 ...	3·25
Rate of deaths under 1 year to 1,000 births.....	164 ...	222 ...	177

Although the zymotic rate shows an increase of 1·28 per 1,000 of the population as compared with last year, the general death-rate is reduced 2·3. The phthisis, respiratory, and infant rates compare favourably with previous years. Of the 23 deaths from the seven principal zymotic diseases, diarrhœa claimed 19—equal to a rate of 2·71 per 1,000. Measles caused 2 deaths, and whooping cough and scarlet fever 1 each. Only 7 cases of infectious diseases were notified, viz., scarlet fever 2, typhoid fever 1, diphtheria 1, and erysipelas 3.

Hospital Accommodation.—The joint hospital at Astley is available, but no case was removed during the year.

Disinfection.—No proper apparatus.

Water Supply good and ample, obtained from the Ince Urban Council's reservoirs situate in this district.

Sewerage, Scavenging, &c.—Sewerage is treated on bacteria beds, and the effluent is said to be satisfactory. The

sanitary officials are entrusted with the scavenging.

Sanitary Inspection.—Four houses were reported as unfit for habitation, but have since been made habitable. Bake-houses, slaughter-houses, lodging-houses, and dairies and cowsheds are kept in "sanitary condition." It is to be regretted that dairy, &c., regulations are not in force. There were 58 nuisances abated, 59 notices served, and 4 smoke observations taken.

Gorton.—(Area in acres, 1,147; Estimated Population, 27,000.)—*Medical Officer of Health*, A. W. Martin, L.R.C.P., D.P.H.; *Salary*, £80.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	32·8	34·4	34·6
Death-rate	20·3	18·6	19·8
Zymotic death-rate	3·77	4·00	3·93
Phthisis ,,	1·33	1·03	1·35
Respiratory ,,	3·44	3·06	4·13
Rate of deaths under 1 year to 1,000 births	205	205	190

The Census showed that the population had been over-estimated by no less than 2,436. The mortality statistics for the year under report cannot be considered satisfactory, the rates being much above the averages of the County urban districts. Diarrhœa again caused an excessive number of deaths, viz., 77, equal to a rate of 2·85 per 1,000 of the population. For some years this disease has been very fatal, as will be seen by the following rates:—1900, 2·3; 1899, 2·7; 1898, 4·5; 1897, 2·0. Dr. Martin reports that "each succeeding year confirms my observation in 1898 that the annual epidemic of diarrhœa and of typhoid fever is connected with the appearance of the common house-fly, which becomes very numerous at the beginning of July, and breed chiefly in privy-middens. The increase and decrease of the annual diarrhœa

and typhoid fever epidemic can be foretold with a great degree of accuracy, an increase in the diarrhœa cases occurring in one week, and typhoid notifications in three to four weeks after an increase in the number of flies is observed. The annual epidemic of these two diseases begins and ends with the appearance and disappearance of the domestic fly." Whooping cough and measles gave rise to 8 and 5 deaths respectively, against 16 and 15 last year. Scarlet and typhoid fevers had an increased prevalence in comparison with 1900, the former being responsible for 123 cases 1 death, against 90 cases 4 deaths, and the latter 84 cases 8 deaths, against 61 cases 10 deaths. Reference is again made to the connection between typhoid fever and the privy-midden; the proportion of cases of this disease occurring in houses with privy-middens was 19·5 per 1,000, and in houses with water-closets 3·7 per 1,000. Diphtheria—including membranous croup—gave rise to 16 cases 3 deaths, and erysipelas caused 11 cases.

Hospital Accommodation is available at Stockport and Withington. Twenty-two cases were removed, viz., typhoid fever 14 and scarlet fever 8. One of the former terminated fatally. The total cost for maintenance, &c., was £276 6s. 6d., or £12 11s. 2d. per patient. The proposed joint hospital scheme mentioned last year is in abeyance.

Disinfection.—Infected clothing, &c., is disinfected at the hospital. Chlorine is used for the fumigation of houses.

Water Supply obtained from the Manchester Corporation.

Sewerage, Scavenging, &c.—The Local Government Board in October sanctioned the borrowing of £21,519 for works of sewerage and sewage disposal. The nuisance caused by the sewage pollution of the Gore Brook still continues. The Authority undertake the scavenging. A refuse destructor is wanted.

Sanitary Inspection.—During the year 1,734 houses have been examined by the Inspector, and the various sanitary

defects discovered were brought to the notice of the responsible persons. The Council are urged to proceed more rapidly with the work of converting privy-middens into water-closets; only 81 were so altered during 1901. Bakehouses (12), slaughter-houses (2), factories, and workshops are frequently inspected, and appear to give satisfaction. Dairies and cowsheds (10) and milkshops (137) are reported as fair. The Inspector (Mr. Prescott) supplies details of the sanitary work carried out, including the abatement of 254 nuisances, after the service of a like number of notices. In 4 instances summonses were issued with successful results. Smoke observations taken numbered 13, and two were followed by legal proceedings.

Grange.—(Area in Acres, 1,540; Census Population, 1,993.) *Medical Officer of Health*, G. H. Patterson, M.R.C.S.; *Salary*, £30.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	10·5	13·8	13·8
Death-rate	11·5	12·7	10·5
Zymotic death-rate	0·50	0·57	0·34
Phthisis ,,	3·01	1·15	1·33
Respiratory ,,	1·00	0·57	1·39
Rate of deaths under 1 year to 1,000 births	142	83	78

The death-rate (11·5) includes 6 deaths of persons not belonging to the district. Excluding these the rate is equal to 8·5 per 1,000, or 2·0 below the mean of the preceding decade. The rate from phthisis is high, but this is accounted for by the fact that many persons visit Grange for the cure of this disease. Seven notifications were received, viz., scarlet fever 5, and typhoid fever 2; one of the latter terminated fatally.

Hospital Accommodation none. Although only ten cases of infectious disease have occurred during the last four years,

Dr. Patterson points out the advisability of some hospital provision being made.

Disinfection.—No apparatus.

Water Supply good.

Sewerage, Scavenging, &c.—The new sewerage and foreshore improvement scheme has been the subject of a Local Government Board Inquiry, but the result is not yet to hand. Scavenging is carried out by contract.

Sanitary Inspection.—Little information is given as to the sanitary work accomplished. Bakehouses gave satisfaction and slaughter-houses are described as "fair." The position of one of the latter places was unsatisfactory, and a notice was issued for its closure. There are no dairies or cowsheds in the district.

Great Crosby.—(Area in acres, 1,907; Census Population, 7,555.)—*Medical Officer of Health*, W. S. Limrick, L.R.C.P.E.; Salary, £50.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	21·4	19·5	21·3
Death-rate	12·5	12·5	11·2
Zymotic death-rate	1·05	0·12	0·95
Phthisis ,,	1·05	0·62	0·73
Respiratory ,,	2·25	2·88	1·95
Rate of deaths under 1 year to 1,000 births	129	76	102

The general death-rate coincides with last year's average, but the zymotic, phthisis, and infant rates are less favourable. To diarrhœa 3 deaths were ascribed, to measles 2 deaths, diphtheria 2 deaths, and typhoid fever 1 death. Thirty-eight notifications were received, viz., scarlet and typhoid fever 9 each, diphtheria 13, and erysipelas 7.

Hospital Accommodation is provided at the Bootle Corporation hospital, where 7 cases were isolated—2 scarlet fever, 2 typhoid fever, and 3 diphtheria. The total hospital expenditure was £174 10s. 1d., including an annual contribution of £143 10s. 0d.

Disinfection is carried out by dry heat.

Water Supply good, obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—Sewage is discharged into the sea. The smoke test was applied to 86 drains, and in almost every case some defects were discovered. Scavenging is carried out partly by contract, and partly by the Council's officials.

Sanitary Inspection. — Systematic inspection of the district continues. Dairies, cowsheds, and milkshops are described as satisfactory, and the bakehouses comply with sanitary requirements. The Inspector (Mr. Wilson) gives details of the 231 nuisances abated, after the service of 121 notices, many of a comprehensive character. Numerous smoke observations were taken, and in one instance legal proceedings were instituted.

Great Harwood.—(Area in acres, 2,868; Census Population, 12,015.)—*Medical Officer of Health,* John Patchett, L.R.C.P.E.; *Salary,* £40.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	25·8	28·5	28·8
Death-rate	16·3	13·5	15·2
Zymotic death-rate	2·16	1·91	1·46
Phthisis ,,	0·99	0·75	0·91
Respiratory ,,	3·07	2·50	3·03
Rate of deaths under 1 year to 1,000 births	170	146	142

The mortality statistics for the year under review do not

compare favourably with the rates for 1900, or with the averages of the 10 years 1891-1900. The increase in the zymotic rate is mainly due to the deaths from diarrhœa (12), and these deaths, coupled with several deaths of young children from respiratory affections, account for the increased infantile mortality. Dr. Patchett is of opinion that some of the diarrhœa fatalities were caused by improper feeding, and the deaths from diseases of the respiratory organs were in some instances attributed to the carrying out of infants in the early morning to other houses when the mother goes to work. The notifications received amounted to 207 against 52 in the previous year. This increase was due to an epidemic of scarlet fever which commenced at the end of June, and continued almost to the end of the year; altogether 165 cases were reported and 9 deaths resulted. The summer holidays at one of the schools were extended. Typhoid fever gave rise to 18 cases 4 deaths, diphtheria and membranous croup 7 cases 1 death, erysipelas 16 cases, and puerperal fever 1 case.

Hospital Accommodation nil.

Disinfection. —Houses fumigated with formalin. No proper appliances for disinfecting clothing, &c.

Water Supply good, obtained from Accrington.

Sewerage, Scavenging, &c.—Plans and details of the proposed alterations at the conjoint sewage works have been submitted to the Local Government Board, together with a petition praying the Board to permit the bacterial filters to be constructed in such a manner as would do away with irrigation over land, but up to the present time this request has not been acceded to. Scavenging receives satisfactory attention from the Council's officials.

Sanitary Inspection.—Numerous backyards have been flagged, and many privy-middens were reconstructed on the the water-carriage system. Bakehouses are small but fairly

satisfactory. The scheme for the erection of a public abattoir is still under consideration. Dairies and cowsheds—subject to regulations—are described as clean and fairly well drained, but somewhat low and short of air space. Some of the factories and workshops would be improved by additional means of ventilation. Altogether 110 notices were issued dealing with 95 nuisances. Thirty smoke observations were taken.

Haslingden (Borough).—(Area in acres, 8,196; Census Population, 18,543.)—*Medical Officer of Health*, J. A. Harrison, M.D.; Salary, £50.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	20·0	22·1	25·1
Death-rate	14·0	15·7	16·8
Zymotic death-rate	1·29	1·68	1·88
Phthisis ,,	0·88	0·65	1·01
Respiratory ,,	2·58	3·69	3·41
Rate of deaths under 1 year to 1,000 births	153	132	169

The birth and death rates are the lowest recorded during the past decade, and zymotic, phthisis, respiratory, and infant rates compare favourably with the 10 years' averages. Diarrhœa, with 10 deaths, was the most fatal of the principal zymotic diseases; diphtheria caused 5 deaths, typhoid fever and whooping cough 3 deaths each, scarlet fever 2 deaths, and continued fever 1 death. Scarlet fever, which gave rise to 112 cases, has been present in epidemic form for the past four years, and, as no hospital provision is made, very little can be done to stamp out the disease, and it has simply to exhaust itself for want of fresh susceptible material. Typhoid fever contributed 23 cases, diphtheria and membranous croup 15 cases, erysipelas 12 cases, and relapsing fever 1 case.

Hospital Accommodation nil. Dr. Harrison again strongly urges the Council to provide suitable isolation accommodation

for small-pox and the ordinary infectious diseases. The old farmhouse at Clod, used occasionally for small-pox cases, is entirely unfitted for its purposes; the cubic space is insufficient, and the means of ventilation are not satisfactory.

Disinfection.—The new steam apparatus has proved valuable. Eighty-nine houses were fumigated.

Water Supply is obtained mainly from Clough Bottom reservoir. Owing to scarcity in the summer months the water was very muddy and had an offensive taste and smell. The district known as Carrs has still to rely on water of very doubtful quality on account of its periodic liability to be polluted by manure spread for agricultural purposes; town's water ought to be laid on without further delay. Several wells supplying outlying parts of the district are also liable to manurial pollution.

Sewerage, Scavenging, &c.—The new system of sewering is almost completed, and only the outlying parts remain unconnected. In June the Mersey and Irwell Joint Committee had occasion to complain of the unsatisfactory character of the effluent from the joint outfall works. Scavenging as performed by the Council gives satisfaction, but the long contemplated refuse destructor has not yet been erected. The contract for its erection has been let, but some difficulty has arisen regarding the site.

Sanitary Inspection.—"A very great improvement has been made in those parts of the borough where it has been found practicable to substitute waste-water closets in lieu of the tub or pail system." During the year 218 closets were reconstructed, 203 to water-closets, and 15 to pail closets. Bakehouses are in good condition, and common lodging-houses comply with the bye-laws. The Medical Officer of Health recommends the abolition of the existing slaughter-houses, and the erection of a public abattoir. Little or no attention

is now given to dairies and cowsheds, but it is intended shortly to commence the inspection of these places. The amount of air space required at the present time, viz., 400 cubic feet per cow, is far too low. Factories and workshops are kept under observation, and the sanitary arrangements give satisfaction. The Inspector (Mr. Hoyle) secured the abatement of 458 nuisances. No smoke observations were taken.

Haydock.—(Area in acres, 2,411; Estimated Population, 8,650.)—*Medical Officer of Health*, T. E. Hayward, M.B. (Lond.); *Salary*, £60.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	42·4	36·0	39·4
Death-rate	18·9	15·3	17·5
Zymotic death-rate	5·54	1·90	2·76
Phthisis ,,	0·69	0·83	1·00
Respiratory ,,	2·31	2·50	2·86
Rate of deaths under 1 year to 1,000 births	190	158	154

Dr. Hayward reports that it is evident that, "in so far as the year under consideration is concerned, Haydock has had no share in contributing to a 'declining' birth-rate." The death-rate was 3·6 in excess of the previous year, and 1·4 above the mean of the 10 years 1891-1900. The zymotic diseases gave rise to an exceptionally high death-rate (5·54), chiefly due to epidemic diarrhœa, which alone contributed 27 of the total 48 zymotic deaths; the same cause also accounted for the considerable addition to the proportion of infant deaths to births. Typhoid fever was responsible for 33 cases 3 deaths, diphtheria and membranous croup 18 cases 8 deaths, scarlet fever 69 cases 6 deaths, and whooping cough 4 deaths.

Hospital Accommodation.—By arrangement infectious cases are treated in the St. Helens sanatorium. Altogether 32

patients were removed, including 19 suffering from scarlet fever and 13 from enteric fever. In the previous year 22 cases were removed.

Disinfection.—Houses are fumigated with sulphur. Steam disinfector (Messrs. Goddard, Massey, & Warner) is available for bedding, clothing, &c.

Water Supply good, obtained from the Rivington reservoirs of the Liverpool Corporation.

Sewerage, Scavenging, &c.—A proper drainage system is very much wanted, as well as the adoption of water-carriage in lieu of privy middens. "By such means it might be hoped that recurrent epidemics of typhoid fever would be done away with." The Authority undertake the scavenging and the refuse is used for agricultural purposes.

Sanitary Inspection.—It is satisfactory to observe that the Council have resolved to appoint a qualified Inspector to devote his whole time to sanitary work. Cowsheds, milk-shops, slaughter-houses, and bakehouses have been found as a whole clean and in good order generally. Limewashing was recommended in one or two cases, and this has been carried out. The Inspector served notices for the abatement of 87 miscellaneous nuisances; 37 houses have been fumigated after infectious disease and notices served on the owners to have the same thoroughly cleaned, and limewashed. No legal proceedings have been found necessary to secure the abatement of nuisances. As a supplement to his Annual Report Dr. Hayward has prepared an exceedingly valuable supplement containing (1) a new Life Table for Haydock based on the Census Enumerations of 1891 and 1901 and on the recorded deaths for the decennium 1891-1900 shown in comparison with the preceding Life Tables for the 10 years 1881-1891, &c.; (2) other Tables showing the mean age and sex distributions of the population of Haydock compared with corresponding figures for the whole of England and Wales.

Heaton Norris.—(Area in acres, 1,635; Estimated Population, 9,494.)—*Medical Officer of Health*, F. W. JORDAN, M.D., D.P.H.; Salary, £50 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	16·5	14·9	16·8
Death-rate	12·0	11·0	11·4
Zymotic death-rate	1·57	0·40	0·88
Phthisis ,,	1·15	0·50	0·95
Respiratory ,,	0·84	2·11	2·29
Rate of deaths under 1 year to 1,000 births	133	114	115

By the extension of the County Borough of Stockport, on the 9th November, 1901, the area of this district was reduced to 1,619 acres; the population of the 16 acres transferred was 82. As compared with last year the birth and death rates each show an increase, and the zymotic, phthisis, and infant rates are less favourable. The respiratory rate is very low. The death-rate varied from 16·07 in Heaton Mersey Ward to 11·36 in Heaton Moor West Ward, 10·46 in Heaton Moor East Ward, and 9·52 in Heaton Chapel Ward; whilst the proportion of infant deaths to 1,000 births was 192 in Heaton Moor West Ward, 184 in Heaton Mersey Ward, 75 in Heaton Chapel Ward, and 38 in Heaton Moor East Ward. Diarrhœa and whooping cough were prevalent chiefly in Heaton Mersey, and caused 9 and 5 deaths respectively. Scarlet fever of a mild type contributed 23 cases, typhoid fever 3 cases (1 fatal), diphtheria and membranous croup 4 cases, erysipelas 4 cases, and puerperal fever 2 cases.

Hospital Accommodation is available at the Ladywell Sanatorium, belonging to the Salford Corporation where 8 cases were isolated, viz., 6 scarlet fever, and 1 each from typhoid fever and diphtheria.

Disinfection.—No apparatus. Houses are fumigated after infectious diseases and also after phthisis.

Water Supply continues to be better in quality than formerly.

Sewerage, Scavenging, &c.—Additions and improvements at the sewage works have been made, but on two occasions—May and July—the Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent. All new and reconstructed drains are now submitted to the smoke test. The Authority undertake the scavenging.

Sanitary Inspection. — Considerable improvements in local sanitary conditions have taken place during the year, including reconstruction of closets, relaying of drains, repairing roads, footpaths, yards, &c. Bakehouses, slaughter-houses, dairies, and cowsheds are generally in good condition. Only 5 statutory notices were required for the abatement of nuisances, but in one instance legal proceedings had to be instituted. Seven smoke nuisances were dealt with.

Heysham.—(Area in acres, 1,835 ; Census Population, 3,381.) *Medical Officer of Health*, R. B. Gass, M.B., C.M. ; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 2 years, 1899-1900.
Birth-rate	25·1	21·7	18·8
Death-rate	11·8	10·7	9·8
Zymotic death-rate	0·59	1·25	0·79
Phthisis ,,	2·07	0·50	0·25
Respiratory ,,	0·88	0·50	1·08
Rate of deaths under 1 year to 1,000 births	129	114	77

The birth and death rates were increased 3·4 and 1·1 per 1,000 respectively as compared with last year's averages, but

these increases are more apparent than real, as the population was somewhat over-estimated in 1900. The rate from the seven principal zymotic diseases was very favourable, only two deaths being ascribed to these causes, viz., typhoid fever 1 and whooping cough 1. The infantile mortality, however, is much above the average of the two preceding years. Scarlet fever, which last year caused 56 cases, gave rise to only 4 cases, but typhoid fever was responsible for 11 attacks against 2 in the preceding twelve months. Erysipelas contributed 3 cases.

Hospital Accommodation nil at present, but it is hoped that next year the new hospital will be ready for the reception of patients. Owing to the roving disposition of a large proportion of the population, some accommodation ought to be available for small-pox cases.

Disinfection.—Efficient disinfecting apparatus may be provided in conjunction with the new isolation hospital.

Water Supply excellent in quality and quantity.

Sewerage, Scavenging, &c.—The sewage discharges into tidal currents at low water. Sewerage of the district is being "efficiently extended." Dr. Gass reports that scavenging becomes more efficient each year. Refuse is at present deposited on tips, but a destructor is recommended.

Sanitary Inspection.—Several houses without back doors or through ventilation have been improved, but others of a similar character remain to be dealt with. Bakehouses, slaughter-houses, lodging-houses, dairies, cowsheds, and milkshops are all described as in "good condition." The adoption of dairy, &c., regulations would be beneficial. Twenty-eight notices were served for the abatement of nuisances, including one relating to black smoke.

Heywood (Borough).—Area in acres, 3,660; Census Population, 25,458.)—*Medical Officer of Health*, H. H. I. Hitchon, M.R.C.S.; *Salary*, £100.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	21·3	24·6	25·5
Death-rate	16·0	20·2	20·6
Zymotic death-rate	1·33	2·90	2·48
Phthisis ,,	2·12	2·00	1·93
Respiratory ,,	3·06	4·04	4·65
Rate of deaths under 1 year to 1,000 births	128	169	184

The mortality statistics under review compare very favourably with those of 1900, and with the mean of the preceding 10 years. The general death-rate is the lowest recorded since 1880, and the infantile mortality has not been so low during the last 10 years. Diarrhœa with 24 deaths was the most fatal of the zymotic diseases, and Dr. Hitchon again points out that almost all the deaths were of children artificially fed. Measles caused only 1 death, and whooping cough 3 deaths, against 29 and 9 respectively last year. There was a considerable diminution in the number of cases of infectious disease notified: scarlet fever contributed 14 cases, typhoid fever 14 cases (1 death), diphtheria 13 cases (5 deaths), and puerperal fever 2 cases. Referring to typhoid fever and diphtheria the Medical Officer of Health points out that the backyards of many of the houses where these cases occurred were unpaved, and the soil was contaminated with matter percolating from the midden privies, and also in some instances saturated with slop-water. Bacteriological examinations in suspected cases of typhoid fever and diphtheria have again proved of great value.

Hospital Accommodation.—A small hospital of 12 beds is provided, but it was not used during the year.

Disinfection.—Defries' steam apparatus is available for infected bedding, clothing, &c. Thirty-seven houses were fumigated.

Water Supply, obtained from the Heywood and Middleton Joint Board, is described as good.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. On two occasions, February and December, the Mersey and Irwell Joint Committee made complaint as to the character of the effluent. Flushing and better ventilation of the sewers is much needed, and reference is again made to the very objectionable and dangerous practice of blowing off steam from mill boilers into the sewers. I may point out that this matter may readily be dealt with under Section 17 of "The Public Health Acts Amendment Act, 1890." Scavenging appears to be satisfactorily carried out by the Authority, but the "long promised and much needed" destructor has not yet been provided.

Sanitary Inspection.—Many back yards and back streets require flagging or paving, but it is pleasing to note that the old privy-closets are gradually being abolished, and waste-water closets substituted in their place; 155 of the latter were constructed during the year. Slaughter-houses do not give satisfaction, and a public abattoir is required. If the latter was erected many nuisances which now exist around the slaughter-houses would be removed. Bakehouses, lodging-houses, factories, workshops, and dairies, cowsheds, and milkshops are regularly inspected and appear to be in fair sanitary condition. No contraventions of the Acts were observed on the 20 canal boats examined. The Inspector (Mr. Robinson) gives details of the nuisances abated, which necessitated the service of 92 notices. Thirty observations of one hour each were made of smoke issuing from mill chimneys. None of these were followed by legal proceedings, but the Medical Officer of Health appeared before the Magistrates as

witness for a private prosecutor in 22 cases relating to the smoke nuisance.

Hindley.—(Area in acres, 2,612; Estimated Population, 23,616).—*Medical Officer of Health*, James Chronnell, M.R.C.S.; *Salary*, £50.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	39·2	37·0	40·2
Death-rate	21·2	21·7	21·6
Zymotic death-rate	4·91	3·72	4·06
Phthisis ,,	0·76	0·61	0·77
Respiratory ,,	4·48	6·14	5·35
Rate of deaths under 1 year to 1,000 births	213	201	180

The slight improvement shown in the mortality statistics last year, apart from the general death-rate and respiratory rate, has not been maintained during the period under review, and the averages cannot be considered satisfactory. The zymotic and infant death-rates greatly exceeded the average of the County urban districts. Diarrhœa alone caused a death-rate of 2·8 per 1,000 of the population, 68 deaths being ascribed to this cause. Dr. Chronnell endeavoured to find a satisfactory explanation for this heavy loss of infant life, but the only conclusion he could arrive at was that errors in feeding, coupled with want of cleanliness, were mainly responsible. Measles also had an extensive prevalence at the beginning and end of the year (especially in East Ward where the whole of the schools had to be closed), but only 13 cases terminated fatally. Again a large number of notifications were received, viz., 427 against 473 in 1900. Last year an epidemic of scarlet fever had to be recorded, and now diphtheria caused no less than 242 cases, of which 23 proved fatal. South Ward, which is low-lying and has a cold

damp soil, suffered most. Scarlet fever contributed 92 cases 2 deaths (against 355 cases 19 deaths in the previous year), typhoid fever 63 cases 8 deaths, erysipelas 21 cases, puerperal fever 5 cases, membranous croup 2 cases, and continued fever 2 cases.

Hospital Accommodation.—A small hospital of 8 beds is usually reserved for small-pox cases, but 7 cases of typhoid fever were treated there during 1901. A scheme for the erection of an infectious hospital is under consideration.

Disinfection. — Eight schools and 327 houses were fumigated, but apparently there is no proper apparatus for the disinfection of bedding, clothing, &c.

Water Supply, of excellent quality, is obtained from the waterworks of the Liverpool Corporation.

Sewerage, Scavenging, &c.—Sewage is treated by chemical precipitation and land filtration on two farms. In April the Mersey and Irwell Joint Committee instituted legal proceedings against the Council for the pollution of Borsdane Brook. Fines of £10 and costs were imposed on two summonses, and an Order made to carry out the work required within six months. Scavenging is satisfactorily performed by the Council's employees; the refuse being dealt with at the depôt.

Sanitary Inspection. — Bakehouses are described as "satisfactory," and slaughter-houses "as a rule well kept." Dairies and cowsheds are not subject to regulations. The inspection of factories and workshops did not reveal any special defects. The Inspector (Mr. Southern) served 228 preliminary and 43 legal notices for nuisance abatement, most of which were complied with; also 159 notices requiring rooms to be limewashed after the occurrence of infectious disease.

Horwich.—(Area in acres, 3,257; Census Population, 15,084.)—*Medical Officer of Health*, G. H. WHITAKER, L.R.C.P.E.; *Salary*, £40.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	30·6	32·9	36·5
Death-rate	13·9	16·6	16·2
Zymotic death-rate	1·39	2·19	2·28
Phthisis ,,	0·39	0·25	0·69
Respiratory ,,	2·98	4·26	3·45
Rate of deaths under 1 year to 1,000 births	162	155	155

The population, as enumerated at the Census, was nearly 900 below last year's estimate, but it is pointed out that the enumeration was taken when a considerable number of the inhabitants were absent from the town at the week end. With the exception of the infant and phthisis rates the mortality statistics compare favourably with those of the the previous year. Measles, although occasionally prevalent, did not give rise to a single death; but diarrhœa and whooping cough caused 10 and 6 deaths respectively Scarlet fever of a mild type gave rise to 74 cases 2 deaths, diphtheria—associated with membranous croup—contributed 60 cases 2 deaths, and typhoid fever 22 cases 1 death. Dampness of houses and surroundings were the chief insanitary conditions observed in connection with the investigation of these diseases. The remaining notifications were erysipelas 30 cases and puerperal fever 3 cases.

Hospital Accommodation.—The site for the new joint hospital has been approved, and loans of £1,100 and £16,000 for the land and hospital buildings respectively have received sanction. A disused farmhouse is reserved for small-pox cases.

Disinfection.—Washington Lyon's steam apparatus provided.

Water Supply.—The prolonged drought had the effect of limiting the supply and making the water objectionable in quality. An additional supply has now been obtained.

Sewerage, Scavenging, &c.—The effluent from the outfall works not being entirely satisfactory, the Ribble Joint Committee in November called upon the Council to increase their filtration area and to put down sludge presses. The ventilation of sewers requires attention. The Authority undertake the scavenging. A destructor would be useful.

Sanitary Inspection.—In order to improve the sanitary condition of the district the conversion of the old privies into water closets "is a work which should be prosecuted with vigour." A general improvement is noticeable in the condition of bakehouses. Four cases of overcrowding in common lodging-houses were dealt with, and the 4 slaughter-houses received regular attention. Dairies and cowsheds are periodically inspected, but some of them still exhibit sanitary defects, such as inefficient lighting, drainage, and ventilation. The Council have not yet adopted dairy, &c., regulations. The Inspector secured the abatement of 281 nuisances after the service of 59 notices. Ten smoke observations were made.

Hurst.—(Area in acres, 638; Census Population, 7,145).—*Medical Officer of Health*, T. Cooke, M.R.C.S.; *Salary* £30.

Per 1,000 of Population.	1901.	1900.	Mean of 5 years, 1896-1900.
Birth-rate	28·1	31·3	29·8
Death-rate	16·3	19·9	20·0
Zymotic death-rate	1·39	2·60	2·28
Phthisis ,,	1·95	1·15	1·26
Respiratory ,,	2·37	5·05	4·33
Rate of deaths under 1 year to 1,000 births	199	216	193

The birth and death rates declined 3·2 and 3·6 per 1,000 of the population respectively as compared with last year, and

the zymotic, respiratory, and infant rates were considerably reduced, but the latter rate is still far too high. Ten deaths were attributed to the principal zymotic diseases, viz., diarrhœa 5, typhoid fever 3, and scarlet fever 2. The latter disease occasioned 43 attacks, but fortunately mild in character. The remaining notifications were typhoid fever 14, and erysipelas 1. At several of the houses where typhoid fever occurred the privies and ashpits were in a very insanitary condition.

Hospital Accommodation.—Eight cases of typhoid fever were removed to the Ashton-under-Lyne hospital.

Disinfection.—No proper apparatus. Houses are fumigated with formic aldehyde.

Water Supply of good quality is obtained from Ashton, &c., joint waterworks.

Sewerage, Scavenging, &c.—The sewers of the district are connected to the Ashton-under-Lyne system. The Authority perform the scavenging in an efficient manner; the refuse being deposited on tips. A great improvement has been effected by the flagging and paving of several streets.

Sanitary Inspection.—A considerable number of privy middens have been converted to the waste-water system during the year, but many of these objectionable contrivances still remain. Bakehouses and slaughter-houses comply with sanitary requirements, and dairies and cowsheds are in good condition. Factories and workshops receive constant supervision. Details of the Inspector's work are not supplied, but it is stated that where nuisances have been detected the owners have in every case been served with notice to abate same.

Huyton-with-Roby.—(Area in acres, 3,053; Census Population, 4,661).—*Medical Officer of Health*, Egerton F. Hall, M.D.; *Salary*, £30.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	27·2	28·7	28·6
Death-rate	15·8	13·4	13·3
Zymotic death-rate	1·71	0·21	1·41
Phthisis ,,	0·64	nil.	0·70
Respiratory ,,	2·36	3·02	2·87
Rate of deaths under 1 year to 1,000 births	127	105	117

Dr. Hall presents mortality statistics not quite so favourable as in 1900. The zymotic rate rose considerably, and the general death-rate and infant rate were above the average of previous years. In the early part of the year a severe epidemic of measles visited nearly the whole of the district, but, fortunately, only 1 death resulted. In dealing with the outbreak three schools were closed. Diarrhœa was the cause of 4 deaths, typhoid fever 2, and scarlet fever 1. Twenty-five notifications of infectious disease were received, viz., scarlet fever 20, erysipelas 3, diphtheria 1, and typhoid fever 1.

Hospital Accommodation.—One bed is reserved for the use of this district at the Whiston sanatorium. Two cases of scarlet fever were removed.

Disinfection.—Steam apparatus at the hospital is available.

Water Supply good.

Sewerage, Scavenging, &c.—Sewage is conveyed to the outfall works for treatment. Some of the ditches are not quite satisfactory, but additional drainage work is contemplated. Scavenging is in the hands of the Authority.

Sanitary Inspection.—Dairies, cowsheds, and milkshops are under supervision, but it is to be regretted that the Council

have not yet adopted dairy, &c., regulations. Improvements have, during the year, been effected at two farms. Bakehouses are described as "fair." There are no slaughter-houses or common lodging-houses in the district. Only 5 notices were required for the abatement of nuisances.

Ince-in-Makerfield.—(Area in acres, 2,320; Estimated Population, 21,321.)—*Medical Officer of Health*, Joseph E. Parker, M.R.C.S.; *Salary*, £60.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	40·1	37·3	42·2
Death-rate	23·0	22·4	23·1
Zymotic death-rate	4·59	3·19	3·73
Phthisis ,,	0·60	0·56	0·61
Respiratory ,,	5·53	4·95	4·97
Rate of deaths under 1 year to 1,000 births	235	211	206

The Census enumeration showed that the population had been over-estimated by 1,504, consequently last year's averages appear more favourable than they really are. For the period under review the mortality statistics cannot be considered satisfactory. A high birth-rate is accompanied by a death-rate well above the County average, and the zymotic, respiratory, and infant rates are the highest recorded during the last five years. Fifty-five deaths were registered as due to zymotic enteritis, diarrhœa, and epidemic diarrhœa—all in young children—against 20 last year, and 24 in 1899. Dr. Parker states that "bad nursing, careless feeding, and want of personal cleanliness are more in fault than is the sanitary administration of the district." Measles was responsible for 17 fatalities and whooping cough 6, against 14 and 4 respectively for 1900. Scarlet fever was notified in 56 instances, against 173 for the previous year; the disease was of a mild type, only two deaths resulting. During May an

examination of the children at Ince Central schools revealed the fact that 34 children were in attendance with more or less marked desquamation of the skin of the hands. Further enquiries showed that many of these came from houses where the whole family had suffered from sore throats or bad colds, and in some instances other children in the house were supposed to have been suffering from measles. In none of the cases had medical advice been sought, and the result was that there was no check on the movements of affected persons. In all cases, suspicious or marked, school exclusion was enforced with satisfactory results. Typhoid fever, with 38 cases 7 deaths, showed an improvement as compared with 1900, when 76 cases and 17 deaths occurred. This diminution is ascribed to the better care of the street gullies and the more frequent flushing of drains and sewers. Diphtheria and membranous croup gave rise to 39 cases 11 deaths, chiefly in the Platt Bridge part of South Ward. The remaining notifications were erysipelas 16 and puerperal fever 2.

Hospital Accommodation.—Twenty-one beds are provided at the hospital on Amberswood Common. Two wards in a separate block are reserved for small-pox. Little use was made of the hospital, as only 5 cases were removed—3 typhoid fever and 2 scarlet fever.

Disinfection.—Steam apparatus available.

Water Supply good and plentiful.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and filtration. In September the Ribble Joint Committee complained of the unsatisfactory character of the effluent. The Council's officials are entrusted with the scavenging.

Sanitary Inspection. — Three houses, closed with the owner s consent, were demolished, and 15 others, condemned as unfit for human habitation, have been remodelled to the

satisfaction of the Council. Bakehouses and slaughter-houses are well kept, and no complaints were made regarding the common lodging-houses. Dairies and cowsheds are described as "good." The regulations require 800 cubic feet of air space per cow, but it is proposed to accept 600, as that amount "would be quite suitable in Ince." Sixty-six canal boats underwent examination, and factories and workshops were regularly visited. The Inspector (Mr. Corrigan) gives details of 452 nuisances dealt with, necessitating the service of 201 preliminary and 24 statutory notices. The carcases of 3 cows, and a considerable quantity of meat were condemned and destroyed.

Irlam.—(Area in acres, 4,620; Census Population, 4,335.) *Medical Officer of Health*, Edwin O. Jago, M.R.C.S.; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 6 years, 1895-1900.
Birth-rate	36·9	31·2	26·1
Death-rate	15·2	15·6	13·5
Zymotic death-rate	3·22	2·00	2·50
Phthisis ,,	0·46	1·00	0·70
Respiratory ,,	0·92	1·80	2·03
Rate of deaths under 1 year to 1,000 births	93	141	138

The population had been over-estimated by 665 as shown in the Census return. With the exception of the zymotic rate, all the averages compare favourably with the preceding year. The increase in the rate mentioned was due to 8 deaths from diphtheria out of 50 notified cases. The majority of the attacks occurred in the first half of the year, and in dealing with the outbreak two schools were closed for six and four weeks respectively. Scarlet fever only gave rise to 8 cases, typhoid fever 3 cases (1 fatal), erysipelas 1 case, and puerperal fever 1 case. Diarrhœa was the cause of 4 deaths and whooping cough 1 death.

Hospital Accommodation is said to be available at the Ladywell sanatorium belonging to the Salford Corporation, but only two cases have been removed during the last 3 years.

Disinfection.—No special apparatus. A formaldehyde regenerator is used for the fumigation of houses.

Water Supply obtained from Manchester Corporation.

Sewerage, Scavenging, &c.—"The sewage farm meets the needs of the district in dealing with the sewage, the condition of the effluent being consistently satisfactory." At present the roads are scavenged by the Authority, and owners of property are responsible for the emptying of ashpits, but the Council very properly propose shortly to undertake the latter work.

Sanitary Inspection.—Bakehouses, slaughter-houses, and factories and workshops comply with sanitary requirements, and the same may be said of dairies and cowsheds, although they are not subject to regulations. The Inspector served 18 notices for the abatement of a similar number of nuisances.

Kearsley.—(Area in acres, 1,005; Estimated Population, 9,350).—*Medical Officer of Health*, J. C. Eames, M.D.; *Salary*, £40.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	27·1	28·7	32·7
Death-rate	17·0	15·7	18·0
Zymotic death-rate	3·42	3·10	2·48
Phthisis ,,	1·49	0·80	1·22
Respiratory ,,	2·78	1·80	3·58
Rate of deaths under 1 year to 1,000 births	228	184	171

The population had been considerably over-estimated. The mortality statistics presented by Dr. Eames do not compare favourably with the preceding year. The increase in the

zymotic and infant rates is due mainly to the fatalities from diarrhœa, 17 out of the 18 deaths ascribed to this cause being of children under the age of 1 year. Want of cleanliness and improper feeding, no doubt, were responsible factors in many cases. Measles was present during the whole of the year, but more especially in April, when St. John's school was closed on account of the number of children absent suffering from this disease. Fortunately it was of a mild type, only 2 deaths occurring. Four deaths were ascribed to whooping cough. Of 97 cases of scarlet fever notified 2 terminated fatally. The disease was modified in character, and, owing to this, no doubt a considerable number of the cases were due, as children were allowed to run about, or even attend school, whilst suffering from the complaint. Cases of typhoid fever were notified in every month except June. Altogether 42 attacks took place, and 5 deaths were recorded. Diphtheria contributed 5 cases (1 fatal), erysipelas 3 cases, and continued fever 2 cases. The notification of phthisis is recommended.

Hospital Accommodation.—An arrangement has been made with the Salford Corporation for the treatment of infectious cases from this district, and during the year 57 cases were removed, viz., scarlet fever 44, typhoid fever 11, and diphtheria 2. Four typhoid fever cases and 1 diphtheria case terminated fatally.

Disinfection.—No apparatus; 153 rooms were fumigated with sulphur.

Water Supply obtained from Bolton.

Sewerage, Scavenging, &c.—In June the Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent from the outfall works caused by the filters being kept in use rather too long without being renewed. For nine months the Authority performed the scavenging, but in the last quarter the work was let to a contractor.

Sanitary Inspection.—Three houses were condemned, and one was temporarily closed as unfit for human habitation. Bakehouses, slaughter-houses, dairies, and cowsheds are described as generally good, but some of the latter require more light and ventilation. The sanitary accommodation at the factories and workshops is not sufficient. A large number of nuisances (627) have been abated, but a great deal of work "yet requires doing before the district can be said to be in good sanitary state." The Inspector (Mr. Walsh) served 140 notices. The smoke nuisance will very shortly receive attention.

Kirkham.—(Area in acres, 857 ; Census Population, 3,693.)—*Medical Officer of Health*, W. W. Shaw, M.R.C.S. ; *Salary*, £30.

Per 1,000 Population.	1901.	1900.	Mean of 10 years 1891-1900.
Birth-rate	30·8	29·4	29·8
Death-rate	17·8	18·4	19·7
Zymotic death-rate	1·08	1·43	1·57
Phthisis ,,	0·81	1·67	2·33
Respiratory ,,	2·16	2·15	3·87
Rate of deaths under 1 year to 1,000 births	192	138	173

The Census showed that the population had decreased by 310 persons in the decennial period—1892-1901. An increase in the birth-rate of 1·4 per 1,000 as compared with 1900 was accompanied by a decrease in the death-rate equal to 0·6. The zymotic and phthisis rates were fractionally reduced, but the proportion of infant deaths to births rose considerably. Four deaths were ascribed to the principal zymotic diseases, viz., diarrhœa 3 and whooping cough 1. Very little infectious sickness occurred during the year under review, only 3 notifications being received—scarlet fever, typhoid fever, and puerperal fever one each.

Hospital Accommodation.—The joint hospital is nearing completion.

Disinfection.—No apparatus. Sulphur fumigation is relied upon.

Water Supply is satisfactory, obtained from the Fylde Water Board.

Sewerage, Scavenging, &c.—Sewage is conveyed to settling tanks, and the effluent flows into the River Ribble. The Authority perform the scavenging in a satisfactory manner; the refuse being used for agricultural purposes.

Sanitary Inspection.—A systematic inspection of the district is being carried out. Bakehouses are well conducted, and slaughter-houses kept clean. Dairies, cowsheds, and milk-shops—inspected regularly—give satisfaction. Seven privies were converted to the water-carriage system. The Inspector (Mr. Metcalf) gives details of the 89 nuisances abated, after the service of 70 notices.

Lancaster (Borough).—(Area in acres, 3,506; Estimated Population, 40,570.)—*Medical Officer of Health*, G. R. Parker, L.R.C.P. (Lond.); *Salary*, £140.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	26·1	25·2	28·5
Death-rate	17·9	16·0	18·1
Zymotic death-rate	2·75	2·04	2·13
Phthisis ,,	1·57	0·86	1·45
Respiratory ,,	3·22	2·95	3·43
Rate of deaths under 1 year to 1,000 births	190	170	160

The birth-rate, although slightly higher than in 1900, was 2·4 below the mean of the past decade. The mortality statistics do not compare favourably with the previous year,

the zymotic and infant death rates showing the most marked increase. Dr. Parker attributes much of the deplorable loss of infant life to the ignorance of young mothers respecting the clothing and feeding of children. Diarrhœa caused 31 deaths, of which 24 were among infants under the age of 12 months. Enteric fever contributed 53 cases 6 deaths, scarlet fever 292 cases 5 deaths, whooping-cough 27 deaths, and diphtheria 134 cases 29 deaths. The prevalence of the latter disease was the subject of careful investigation. For two years diphtheria has been unusually prevalent, with a case mortality equal to 33·03 per cent. in 1900, and 21·64 per cent. in the year under report. The cases were distributed throughout the town, but John O'Gaunt and Queen's were sub-divisions most attacked, the houses, however, in which the disease occurred had few sanitary defects. Dr. Parker states that he has not been able to trace the disease to attendance in school at any particular period. He also eliminates the possibility of milk infection, and no special cause for the outbreak is apparently suggested. Bacteriological aids to diagnosis were taken advantage of in 67 cases, and the antitoxin treatment was adopted in 99 cases, of which 78 recovered.

Hospital Accommodation.—Thirty-two beds are provided, and these were used for the isolation of 168 patients, viz., 127 scarlet fever and 41 enteric fever. No provision is made for the treatment of diphtheria. The cost of maintaining patients in the sanatorium, and other expenses during the year, amounted to £1,276 7s. 7d.

Disinfection.—Houses are disinfected by formaldehyde, perchloride of mercury, &c. Super-heated steam disinfector (Washington Lyons) is used for bedding, articles of clothing, &c.

Water Supply very good. The Blea Tarn reservoir, capable of containing one hundred and twenty million gallons, is completed. "The reservoir has been constructed to store

the water which formerly ran to waste for lack of a sufficiently large reservoir in which to store it." There are still a large number of wells in the borough ; samples of the water were periodically taken, and where the analysis was unfavourable notices were served requiring the provision of a proper supply. All the notices with one exception have been complied with.

Sewerage, Scavenging, &c.—The water-carriage system is generally adopted, the sewage being conveyed to the estuary of the Lune without previous treatment. Scavenging is carried out satisfactorily by the Corporation servants, and the refuse is burnt in a suitable destructor.

Sanitary Inspection.—Several groups of insanitary property in various parts of the town are at present being considered by a special Sub-Committee. Details are given as to the abatement of 1,409 miscellaneous nuisances, requiring the service of a corresponding number of notices. Bakehouses (52), common lodging-houses (16), slaughter-houses (4 private), and public abattoir were periodically visited, and, on the whole, gave satisfaction. Factories and workshops received 28 visits, and the few sanitary defects discovered were remedied. Under the Canal Boats Acts 52 inspections were made, and in one case an infringement of the regulations was discovered. The Inspector took 99 smoke observations, but in no instance was legal action taken—the time limit for the emission of black smoke is 3 minutes per hour.

Port of Lancaster.—The population of the Port was returned at the last Census as 109, or 46 more than at the previous enumeration. The total number of vessels entering the Port was 220, having a carrying capacity of 37,502 tons, with about 1,527 hands, represented an increase of 53 vessels and 642 hands. Of the vessels entering the Port 180 were engaged in the home trade and 40 in the foreign trade.

The vessels arriving at the Lancaster and Glasson Dock have been frequently visited to secure early detection of

infectious disease, but only 1 case (enteric fever) came under notice, and was removed to the isolation hospital.

The water available for the vessels is supplied as before, and no change can be effected until the village of Glasson is better provided with water.

Lathom and Burscough.—(Area in acres, 13,660; Census Population, 7,113.)—*Medical Officer of Health*, J. G. Laing, L.R.C.P.I.; *Salary*, £50.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	31·4	27·1	33·8
Death-rate	15·3	16·4	16·5
Zymotic death-rate	1·54	1·80	2·31
Phthisis ,,	0·84	0·51	0·97
Respiratory ,,	1·54	3·21	3·24
Rate of deaths under 1 year to 1,000 births	147	165	136

The mortality statistics under review compare favourably with those recorded for the preceding year, and, excepting the infantile mortality, with the averages of the 10 years 1891-1900. Whooping cough of a severe type was very prevalent during January, February, and March, and caused 7 deaths. In dealing with the epidemic one school was closed for a period of 7 weeks. Measles did not occasion a single death, but diarrhœa caused 2 fatalities. Scarlet fever gave rise to 10 cases, one of which was caused by the parents of the child attacked attending a funeral in Wigan of a child who had died from scarlet fever; and another case was also contracted in that borough. Diphtheria, associated with membranous croup, was responsible for 13 cases 2 deaths. Six of the cases occurred in New Lane, and four of them were removed from a canal boat. "New Lane is one of the outlying parishes of Burscough, and is a regular hotbed of diphtheria and typhoid

fever. The sanitary arrangements are very imperfect, and serious defects were found at practically every house from which a notification was received." Typhoid fever contributed 9 cases, and erysipelas 7 cases.

Hospital Accommodation.—Only 1 case of scarlet fever was removed under the arrangement with the hospital of the West Lancashire Rural Authority at Aughton. An agreement has now been made with Ormskirk to treat cases from this district.

Disinfection.—A Thresh steam disinfector is available. Houses undergo sulphur fumigation.

Water Supply described as very good. Pipes have been laid to some of the outlying parts which, hitherto, have had to rely on water of very doubtful quality.

Sewerage, Scavenging, &c.—A considerable length of sewering has been completed during the year, and the drawings and specifications for the new outfall works at New Lane are well in hand. The sewage of the outlying district of Westhead is separately treated. Scavenging—undertaken by contract—gives satisfaction, the refuse being used for agricultural purposes.

Sanitary Inspection.—Nine single-storied and badly ventilated houses have been demolished. Bakehouses and slaughter-houses are kept clean and in good condition. Dairies and cowsheds only receive occasional inspection; many are in very fair condition, but some are small and badly ventilated. Steps are now being taken to carry out the provisions of the new Factory and Workshop Act. The twenty-seven canal boats inspected were in good condition. The boat on which the diphtheria cases above-mentioned occurred was thoroughly disinfected and cleansed. The Inspector (Mr. Darby) secured the abatement of 100 nuisances after the service of 36 notices. In one instance legal proceedings were necessary.

Lees.—(Area in acres, 203; Census Population, 3,621.) *Medical Officer of Health*, Wm. Stanfield, M.D.; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	27·3	24·9	28·6
Death-rate	16·8	18·3	20·7
Zymotic death-rate	1·10	2·14	2·04
Phthisis ,,	1·10	1·42	1·70
Respiratory ,,	2·76	4·04	3·92
Rate of deaths under 1 year to 1,000 births	151	209	189

The population, which declined 256 in the last intercensal period, had been over-estimated. The death-rate for the period under review is, with one exception, the lowest recorded during the last 10 years, and the zymotic and infant rates are much below the average. Scarlet fever and measles prevailed from April to the end of November, but no deaths resulted. Fourteen notifications of scarlet fever were received, 3 of diphtheria, and 1 of erysipelas. Diarrhœa was the cause of 4 deaths.

Hospital Accommodation said to be available at Oldham, but no cases were removed.

Disinfection.—Houses fumigated with sulphur.

Water Supply obtained from Oldham.

Sewerage, Scavenging, &c.—The drainage from this small district is received into the Oldham Corporation sewers. In June the Mersey and Irwell Joint Committee drew attention to the pollution caused by the storm overflow discharging into the River Medlock even during dry weather. Scavenging, performed by contract, is well attended to.

Sanitary Inspection.—Want of cleanliness was noticeable in one of the slaughter-houses. Of the 3 dairy farms 2 are

satisfactory. The Inspector (Mr. Liversage) served 18 notices to secure the abatement of 21 nuisances. Smoke observations of all factory chimneys have been taken and reported to the Authority. Form C has again not been supplied.

Leigh (Borough).—(Area in acres, 6,358; Census Population, 40,001.)—*Medical Officer of Health*, J. King, M.B.; *Salary*, £120.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	33·5	36·3	37·2
Death-rate	17·4	22·9	21·3
Zymotic death-rate	3·17	4·41	4·32
Phthisis ,,	1·04	1·12	1·34
Respiratory ,,	3·37	4·84	4·87
Rate of deaths under 1 year to 1,000 births	165	208	189

The birth-rate is considerably below the average, and the general death-rate is the lowest recorded during the last six years. St. Joseph's Ward had the highest death-rate, viz., 21·27, and St. Peter's Ward the lowest, 12·13. The zymotic rate, although reduced, is well above the average of the County urban districts. Diarrhœa, which last year contributed 111 fatalities, again assumed an epidemic form and caused 84 deaths, 66 in children under the age of one year. Dr. King reports that "improper and careless feeding, together with climatic conditions, are the chief factors in the production of this disease." The prevalence of measles in the early part of the year necessitated school closure. Eleven deaths were due to this cause, and whooping cough gave rise to 13 deaths. Scarlet fever was responsible for 98 cases and 6 deaths. In one instance a child was discovered attending school whilst desquamating, and this gave rise to several other attacks. Almost 60 per cent. of the scarlet fever cases notified were removed to hospital. Typhoid fever was the cause of 34 cases

8 deaths, diphtheria and membranous croup 25 cases 5 deaths, erysipelas 24 cases, and puerperal fever 3 cases. The voluntary notification of phthisis was adopted during the year.

Hospital Accommodation.—Seventy-five cases were removed to the joint hospital at Astley, viz., scarlet fever 58, typhoid fever 12, and diphtheria 5. The Medical Officer of Health reports on the necessity of hospital provision for small-pox cases.

Disinfection.—An efficient steam disinfecting apparatus is required. Houses fumigated numbered 128.

Water Supply.—Quality good, pressure indifferent. Five wells at Landside were pronounced unfit for domestic purposes.

Sewerage, Scavenging, &c.—Sewage is treated by the Leigh and Atherton Joint Board. The Mersey and Irwell Joint Committee in June complained of the unsatisfactory character of the effluent; since then 6 new bacteria beds have been brought into use, and extension of the artificial filter beds is contemplated. The Common Lane sewer is still unsatisfactory and inadequate, and the sewer in Plank Lane also requires attention. Nuisances have arisen through the pollution of the brook in Nel Pan Lane and the Westleigh brook, but both have been abated. Scavenging, performed by contract, is more efficiently carried out than formerly, but the method of nightsoil removal is still unsatisfactory, and at times gives rise to serious complaints. The local authority might with advantage undertake this work.

Sanitary Inspection.—Twenty-five houses were condemned as unfit for human habitation, and 2 were demolished. It is satisfactory to note that during the year 157 privies have been replaced by water closets, and that the water-carriage system is yearly becoming more general. Lodging-houses, bake-houses, and slaughter-houses receive periodical inspection; the erection of a public abattoir has been under consideration.

Dairies and cowsheds are described as fair. Canal boats (109) passing through the district underwent examination, and supervision was exercised over the sanitary arrangements of factories and workshops. The amount of meat, &c., condemned was 5,728 lbs. The Inspector (Mr. Jackson) reports on 674 nuisances abated. Thirty smoke observations were taken, and notices served on all manufacturers, intimating that legal proceedings will be instituted where the time limit of six minutes black smoke per half-hour is exceeded.

Levenshulme.—(Area in acres, 606; Estimated Population, 11,700.)—*Medical Officer of Health*, H. E. Edlin, M.R.C.S.; *Salary*, £50 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	31·9	24·5	25·7
Death-rate	12·9	9·4	12·9
Zymotic death-rate	1·45	0·88	1·62
Phthisis ,,	0·51	0·80	1·53
Respiratory ,,	2·05	0·64	2·35
Rate of deaths under 1 year to 1,000 births	131	146	127

The birth-rate is 7·4 per 1,000 above last year's average, and is the highest recorded during the 10 years 1891-1900. The general death-rate coincides exactly with the mean of the preceding decennial period, although 3·5 above the rate for 1900. Measles was very prevalent from May to August, but only 3 deaths took place. Diarrhœa was the cause of 9 deaths, and whooping cough 1 death. The increase in the number of notifications as compared with last year was due mainly to an epidemic of scarlet fever which extended from March to August. Though not exactly limited to one part, the largest proportion of cases occurred in the north-east division of the district, around St. Mark's School, and affected chiefly the children attending that school. Two of the scholars were

discovered in the desquamating stage, and as it was evident that the school was acting as a source or centre of infection it was closed for a period of 3 weeks. Altogether 101 cases and 2 deaths were attributed to this disease. Diphtheria and erysipelas gave rise to 10 cases each, typhoid fever 4 cases 1 death, and continued fever 1 case (fatal). Bacteriological examinations in cases of typhoid fever and diphtheria proved very valuable. Arrangements were made in December for the voluntary notification of phthisis to commence on the 1st January, 1902.

Hospital Accommodation.—Twenty-eight cases of scarlet fever were removed to hospital—27 to Hyde and 1 to Monsall (Manchester). The Council have retained a number of beds at the Withington hospital, at Baguley, now almost completed.

Disinfection.—No apparatus. Ninety-nine houses were fumigated.

Water Supply obtained from Manchester. A few houses are still supplied by wells.

Sewerage, Scavenging, &c.—Sewage is conveyed into the Withington sewers. The condition of Cringle and Black brooks has much improved. Scavenging is efficiently carried out by the Authority. A destructor will shortly be erected.

Sanitary Inspection.—Three "through" and 10 "back-to-back" houses were reported as unfit for human habitation. Bakehouses and slaughter-houses give satisfaction. Dairies and cowsheds are in fair condition, but a few of the shippons are deficient in air space. Some of the factories and work-shops examined required cleansing. During the year 52 privy middens were converted to water closets. The Inspector (Mr. Hughes) gives details of 184 nuisances abated after the service of 186 notices. Six smoke observations were taken.

Leyland.—(Area in acres, 3,725; Census Population, 6,865.) *Medical Officer of Health*, E. BERRY, L.F.P.S.G.; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	24·9	24·7	29·9
Death-rate	15·7	19·3	18·5
Zymotic death-rate	1·74	1·84	1·53
Phthisis ,,	0·43	0·61	1·77
Respiratory ,,	2·03	4·15	4·06
Rate of deaths under 1 year to 1,000 births	105	236	181

The mortality statistics under review compare very favourably with those of 1900. The death-rate is 3·6 per 1,000 lower, and the infantile mortality—the lowest on record—is less than half that of the preceding year. Diarrhœa caused 2 deaths, but measles and whooping cough, for the fifth year in succession, did not give rise to a single fatality. A severe epidemic of scarlet fever visited the district, causing 188 cases and 6 deaths. Three schools were closed for a period of 14 days and at other times all children from infected houses were excluded. Typhoid fever contributed 7 cases 3 deaths, diphtheria 1 case (fatal), and erysipelas 15 cases.

Hospital Accommodation.—Forty-four cases of scarlet fever and 5 of typhoid fever were removed to the joint hospital at Heath Charnock. Two of the typhoid fever patients died.

Disinfection.—No apparatus.

Water Supply good but hard. Three tanks—each of a capacity of 50,000 gallons—are to be laid down for softening purposes.

Sewerage, Scavenging, &c.—Two additional precipitation tanks are about to be constructed at the outfall works at

Ulnes Walton. It is proposed to use a mill chimney for ventilation of the sewers, and more frequent flushing is recommended. The Authority undertake scavenging.

Sanitary Inspection.—Bakehouses and slaughter-houses —periodically inspected—are kept clean; improvements at one of the latter have been carried out. Dairy, &c., regulations have not been adopted, and apparently little attention is given to these places. The Inspector served 31 notices for the abatement of a like number of nuisances.

Litherland.—(Area in acres, 857; Census Population, 10,592.)—*Medical Officer of Health*, Benj. Sumner, M.D.; *Salary*, £25 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	38·2 ...	37·0 ...	34·8
Death-rate	15·2 ...	16·6 ...	15·0
Zymotic death-rate.....	3·49 ...	3·15 ...	2·52
Phthisis ,, ...	0·94 ...	1·20 ...	0·91
Respiratory ,, ...	3·11 ...	3·52 ...	2·87
Rate of deaths under 1 year to 1,000 births.....	183 ...	170 ...	168

The general death-rate declined as compared with last year, but the zymotic rate and the proportion of infant deaths to births continue above the average of the County urban districts. Diarrhœa was the cause of 22 deaths—21 amongst children under the age of 1 year. Dr. Sumner attributes much of the sickness due to this disease to impure and unwholesome food, and suggests that a circular be drawn up giving instructions regarding the care and feeding of infants, and distributed at the commencement of the hot weather. Whooping cough contributed 2 deaths. Scarlet fever—somewhat prevalent in the late months—caused 45 cases 8 deaths; diphtheria, associated with membranous croup, gave rise to 25

cases 3 deaths, most of the cases occurring in the early part of the summer; typhoid fever was responsible for 12 cases 2 deaths; and erysipelas 20 cases. The voluntary notification of cases of phthisis has not yet been adopted, but after a death has taken place from this disease the Inspector visits the house and gives instructions for thorough disinfection and cleansing.

Hospital Accommodation.—Twenty-eight cases were removed to the Bootle hospital at Linacre, viz., scarlet fever 19, typhoid fever 2, and diphtheria 7.

Disinfection.—The Medical Officer of Health advises the provision of an efficient disinfector, or that some arrangement be made with a neighbouring Authority for the stoving of infected articles. Houses fumigated numbered 87.

Water Supply obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—Sewage is discharged into the River Mersey. The sewers have been extended and improved, and it is proposed to erect 6 ventilating shafts at the terminal ends. Scavenging—in the hands of contractors—gives satisfaction; the refuse is used for agricultural purposes.

Sanitary Inspection.—Bakehouses and slaughter-houses are fairly well kept, and dairies and cowsheds appear to be in good condition. The amount of air space in cowsheds required by the local bye-laws, viz., 450 cubic feet per cow, is too low. Attention is given to factories and workshops, and to canal boats. During the year 32 privy middens were converted to water-closets. The Inspector (Mr. Garton) gives details of the work done in his department, including 98 nuisances abated, 95 notices served, frequent smoke observations, &c. In dealing with the smoke nuisance legal proceedings were instituted in 3 instances.

Littleborough.—(Area in acres, 7,853; Census Population, 11,166.)—*Medical Officer of Health*, G. K. PITCAIRN, M.B.; *Salary*, £40.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	21·3	23·6	22·2
Death-rate	18·5	17·8	15·3
Zymotic death-rate	0·62	1·72	1·01
Phthisis ,,	1·70	1·32	1·25
Respiratory ,,	3·67	3·47	3·45
Rate of deaths under 1 year to 1,000 births	147	136	132

The Census showed that the population had been considerably over-estimated. With the exception of the zymotic rate, all the mortality statistics are above the average of the 10 years 1891-1900, the general death-rate showing an increase equal to 3·2 per 1,000. Not a single fatality was recorded from measles, whooping cough, or diarrhœa. Scarlet fever of a mild type gave rise to 30 attacks; diphtheria, together with membranous croup, caused 16 cases 3 deaths, and typhoid fever contributed 8 cases 4 deaths. In one of the typhoid fever cases the drinking water was obtained from a well, which was ordered to be closed as the water was found to be entirely unfit for human consumption. Several cases of diarrhœa occurred in the houses supplied from the same well. The remaining notifications were—erysipelas 9, and puerperal fever 1.

Hospital Accommodation.—The joint hospital scheme is progressing.

Disinfection is carried out by dry heat.

Water Supply obtained chiefly from the Rochdale Corporation, but a few houses are supplied from private sources. The latter are undergoing examination, and so far two wells have been condemned.

Sewerage, Scavenging, &c.—The effluent from the sewage works continues to be of a satisfactory nature. The Authority undertake scavenging.

Sanitary Inspection.—Bakehouses, slaughter-houses, and lodging-houses are in good condition, and dairies and cow-sheds, inspected twice a year, are clean and well ventilated. Two infringements of the Canal Boats Acts were discovered on the 46 boats examined. Factories and workshops came under observation; at 2 of the mills the closet accommodation was improved. Letters written and notices issued respecting the abatement of nuisances amounted to 216. Forty smoke observations were taken; in 2 instances legal proceedings followed owing to the time limit allowed—eight minutes per hour—being exceeded, but both were dismissed.

Little Crosby.—(Area in acres, 1,903; Census Population, 563.)— *Medical Officer of Health*, E. Buxton, M.D.; *Salary*, £10 10s. (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate.....	19·5	14·3	16·4
Death-rate	7·1	15·7	10·2
Zymotic death-rate.....	nil.	nil.	0·49
Phthisis ,, ...	1·77	nil.	0·62
Respiratory ,, ...	nil.	4·28	2·20
Rate of deaths under 1 year to 1,000 births.....	nil.	300	107

In this small district only 11 births and 4 deaths were recorded during the year under report. For the seventh year in succession not a single death took place from the principal zymotic diseases, and there were no deaths of children under 1 year of age. Phthisis caused 1 death. Only 2 notifications were received, both scarlet fever.

Hospital Accommodation.—Nil.

Disinfection.—Houses and infected clothing are disinfected by the Great Crosby officials by arrangement.

Water Supply obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—The sewage is conveyed to settling tanks, the sludge being used for agricultural purposes. The Authority perform the scavenging.

Sanitary Inspection.—There are no bakehouses, slaughter-houses, lodging-houses, or factories within the district. Dairies and cowsheds are subject to regulations. Only 3 notices were required for the abatement of nuisances.

Little Hulton.—(Area in acres, 1,699; Census Population, 7,294.)—*Medical Officer of Health.*, J. H. Marsh, L.R.C.P.; *Salary*, £30.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate.....	30·8	28·1	33·6
Death-rate	14·3	17·0	18·5
Zymotic death-rate.....	2·46	2·61	2·51
Phthisis ,, ...	1·09	1·24	0·94
Respiratory ,, ...	1·91	4·27	5·45
Rate of deaths under 1 year to 1,000 births.....	120	171	165

The birth-rate shows an increase of 2·7 per 1,000 as compared with last year, but it is below the mean of the 10 years, 1891-1900. The mortality statistics compare favourably with previous years, the zymotic rate, however, is still above the average of the County urban districts. The latter rate is accounted for by 10 deaths from diarrhœa, and 4 each from typhoid fever and diphtheria. Scarlet fever—the cause of 36 cases—was most prevalent at the beginning and end of the year, East Ward being most affected. Diphtheria and membranous croup caused 19 cases against 5 last year; most of the

premises where the disease occurred were found in an insanitary condition, and the same remark applies to several of the houses where typhoid fever (12 cases) appeared. The question of the voluntary notification of cases of phthisis is at present under consideration.

Hospital Accommodation.—Twenty cases were removed to the joint isolation hospital at Farnworth, viz., scarlet fever 12, diphtheria 6, and typhoid fever 2.

Disinfection.—The steam appliances at the joint hospital are used for the disinfection of bedding, clothing, &c.

Water Supply as obtained from the Bolton Corporation gives satisfaction.

Sewerage, Scavenging, &c.—Sewage is treated in septic tanks and on bacteria beds; the effluent gives satisfaction. Scavenging has been fairly well done by the contractors, but the Council are recommended to take this work directly under their own control. The refuse is deposited on tips.

Sanitary Inspection.—A few alterations have been made in the dairies and cowsheds, but many are not satisfactory as regards ventilation, lighting, air space, drainage, water supply, and general cleanliness. Until the Council adopt regulations there will be a difficulty in enforcing the necessary improvements. Bakehouses, slaughter-houses, factories, and workshops appear to comply with sanitary requirements. Although 47 privy middens were reconstructed, a large number remain as a menace to the public health. The Medical Officer suggests that the Council defray part of the cost to convert these privies to the water-carriage system. The Inspector served 168 notices, and secured the abatement of 144 nuisances. In 8 instances legal proceedings were instituted.

Little Lever.—(Area in acres, 808; Census Population, 5,119.)—*Medical Officer of Health*, J. S. PICKFORD, M.R.C.S.; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate.....	28·9 ...	25·9 ...	30·8
Death-rate	20·9 ...	16·5 ...	19·1
Zymotic death-rate.....	5·27 ...	4·61 ...	2·64
Phthisis ,, ...	0·78 ...	1·19 ...	1·23
Respiratory ,, ...	4·88 ...	2·39 ...	4·54
Rate of deaths under 1 year to 1,000 births.....	209 ...	155 ...	178

The mortality statistics for the period under review cannot be considered satisfactory. The general death-rate is well above the average of the County districts, and the zymotic and infant rates are excessive. No deaths were attributed to measles and whooping cough, but diarrhœa was responsible for 11 fatalities. Scarlet fever was rather prevalent in November and December, fortunately however, it was of a mild type; of 30 cases reported 2 terminated fatally. Typhoid fever gave rise to 17 attacks, and no fewer than 9 deaths were recorded. Diphtheria and membranous croup accounted for 22 cases 5 deaths, erysipelas 17 cases, and puerperal fever 1 case. The voluntary notification of phthisis is receiving consideration.

Hospital Accommodation.—Ten patients were isolated at the joint hospital at Farnworth, viz., scarlet fever 3, and typhoid fever 7; five of the latter died.

Disinfection.—The steam apparatus at the hospital is used.

Water Supply very unsatisfactory owing to the want of filtration; at times the water was quite unfit for domestic purposes.

Sewerage, Scavenging, &c.—Sewage is treated by chemical precipitation and filtration, and the effluent appears to be of good character. The Council's officials efficiently perform the scavenging.

Sanitary Inspection.—Bakehouses and slaughter-houses are clean and well kept, but many of the cowsheds are deficient as regards air space, &c. Canal boats passing through the district are examined, and attention is given to the sanitary arrangements of factories and workshops. Many privy middens exist which are uncovered, wet, and in a very insanitary and dilapidated condition; Dr. Pickford advises the Council to defray part of the cost of converting these into water closets. The Inspector secured the abatement of 30 nuisances after the service of 59 notices.

Little Woolton.—(Area in acres, 1,389; Census Population, 1,091.)—*Medical Officer of Health*, C. Stuart Pethick, M.B.; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	16·4	22·9	20·1
Death-rate	9·1	7·9	9·7
Zymotic death-rate	nil.	1·76	0·79
Phthisis ,,	nil.	1·76	1·58
Respiratory ,,	nil.	0·88	1·32
Rate of deaths under 1 year to 1,000 births	111	115	125

The statistics presented by Dr. Pethick are very satisfactory. For the eighth year in succession the notifiable diseases have not caused a single death, and during the year under review the phthisis and respiratory rates were nil. The infantile mortality is accounted for by 2 deaths ascribed to premature birth. Five cases of scarlet fever occurred in 3 houses, and typhoid fever and erysipelas each caused 1 case.

Hospital Accommodation.—One bed is reserved at the Whiston sanatorium for the use of this district. The case of typhoid fever was removed.

Disinfection.—No apparatus.

Water Supply obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—"The conduct of the sewage farm has been satisfactory," the sewers receive periodical flushing, and one new ventilating shaft has been erected in Grange Lane. Scavenging receives attention at the hands of the Authority.

Sanitary Inspection.—Dairies and cowsheds were inspected and found clean, light, and airy. New regulations will shortly be adopted. No fault was found with the slaughter-houses. Only 3 notices were required for the abatement of nuisances.

Longridge.—(Area in acres, 3,285; Census Population, 4,304.) *Medical Officer of Health*, Geo. Jukes, L.R.C.P.; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate.....	29·2 ...	27·5 ...	30·7
Death-rate	20·4 ...	23·5 ...	19·8
Zymotic death-rate.....	1·85 ...	3·77 ...	2·11
Phthisis ,, ...	0·69 ...	1·77 ...	1·79
Respiratory ,, ...	3·02 ...	6·00 ...	4·36
Rate of deaths under 1 year to 1,000 births.....	174 ...	161 ...	171

The death-rate shows a decline equal to 3·1 per 1,000 of the population as compared with last year, but is still well above the average of the urban districts in the Administrative County. The zymotic rate is reduced to less than one-half that of 1900, but the infantile mortality is not favourable.

Eight deaths were attributed to the principal zymotic diseases, viz., diphtheria and membranous croup 4, scarlet fever 3, and diarrhœa 1. Scarlet fever was prevalent in the first, third, and fourth quarters, but was of a mild type; altogether 68 attacks took place. Diphtheria gave rise to 5 cases, membranous croup 4, erysipelas 2, and typhoid fever 1.

Hospital Accommodation.—Still under consideration.

Disinfection.—No apparatus; 80 houses were fumigated.

Water Supply is good, but requires filtration.

Sewerage, Scavenging, &c.—Some delay has taken place in bringing into operation the three additional filters at the outfall works. Scavenging is performed by the Authority.

Sanitary Inspection.—Two slaughter-houses have been abolished; those remaining are satisfactory. Bakehouses, dairies, and cowsheds are described as fair. Dairy, &c., regulations under the Order of the Local Government Board have not yet been adopted. Notices issued for the abatement of nuisances amounted to 182, and all were complied with.

Lytham.—(Area in acres, 2,464; Census Population, 7,185.) *Medical Officer of Health*, J. C. Fisher, M.A., M.B.; *Salary*, £100.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	20·1 ...	17·6 ...	19·0
Death-rate	14·7 ...	12·5 ...	13·8
Zymotic death-rate.....	1·25 ...	0·48 ...	0·72
Phthisis ,, ...	0·97 ...	0·84 ...	1·39
Respiratory ,, ...	1·80 ...	1·92 ...	2·42
Rate of deaths under 1 year to 1,000 births.....	144 ...	68 ...	140

The Census showed that the estimated population was 1,131 in excess of the reality. Owing to the change in the

Local Government Board Tables the deaths of non-residents are not to be deducted unless occurring in Public Institutions. Had these deaths been excluded, as in previous years, the rate would have been 12·2 per 1,000. The death-rate varied from 23·3 North-East Ward, 22·2 South-West Ward, to North-West Ward 10·8 and South-East Ward 8·0. "Measles has been conspicuous chiefly by its absence during the year," but whooping-cough and diarrhœa caused 4 and 2 deaths respectively. Scarlet fever gave rise to 17 cases, 7 of which were imported. Typhoid fever was the cause of 12 cases 2 death; 6 cases were clearly due to insanitary surroundings and 3 were imported. Dr. Fisher says the privy midden is an ever present danger to the health of the community, and improvement in the typhoid fever statistics must be looked for from the conversions now going on of the present arrangements into the cleanly water-closets and ashpail system. This transformation has been in active operation during the past twelve months, and the benefit has already been seen in the diminishing number of diarrhœa deaths in the N.E. Ward, where formerly they were very prevalent. Diphtheria contributed 2 cases (1 fatal), both attributed to serious sanitary defects in dwelling houses or their immediate vicinity.

Hospital Accommodation.—The joint hospital at Moss Side is practically completed.

Disinfection.—Hot air apparatus is provided. Houses are now fumigated with formic aldehyde gas. The Council offer to disinfect, free of charge, rooms which have been occupied by phthisical patients.

Water Supply.—A certain amount of peaty and other matter is at times observed in the water.

Sewerage, Scavenging, &c.—Sewage is discharged into the estuary untreated. The foul condition of the Liggard brook is again referred to; the pumping scheme which will shortly be completed should effectually abolish the pollution of the brook.

The complete removal of the deposit on the bed of the stream should undoubtedly be included in the scheme. Two additional ventilating shafts to the sewers have recently been fixed. Scavenging is undertaken by the Authority. A destructor will shortly be completed.

Sanitary Inspection.—Bakehouses, workshops, and laundries, whenever visited, have been clean and well conducted. Slaughter-houses are old-fashioned, and from their structural defects are difficult to keep clean. Dairy, &c., regulations came into operation on the 1st of January, and since then great improvements in the cowsheds have taken place. During the year all pigs that were kept nearer the dwelling-houses than the prescribed distance of 60 feet have been removed. The unsightly and insanitary urinal at the Windmill ought to be abolished. The 586 nuisances abated necessitated the service of 624 notices.

Middleton (Borough).—(Area in acres, 4,775; Census Population, 25,178.)—*Medical Officer of Health*, William Graham, M.D., D.P.H.; *Salary*, £100.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	24·1	26·4	27·0
Death-rate	19·5	16·3	18·5
Zymotic death-rate	1·39	1·23	1·71
Phthisis ,,	1·90	1·30	1·53
Respiratory ,,	3·21	2·92	4·23
Rate of deaths under 1 year to 1,000 births	177	127	162

The birth-rate is 2·3 per 1,000 of the population below the rate for 1900, and is the lowest recorded during the past 10 years. As compared with last year the general death-rate shows an increase of 3·2 per 1,000, and the zymotic, phthisis, respiratory, and infant rates are less favourable. Measles—

the cause of 7 deaths—was very prevalent during the autumn, and school closure was resorted to. Attention is drawn to the importance of the thorough ventilation of schools. Diarrhœa gave rise to 12 deaths, and whooping cough 10. Scarlet fever had a diminished prevalence, only causing 48 cases with 2 deaths, against 78 cases 4 deaths in the preceding year. Diphtheria—together with membranous croup—contributed 6 cases 4 deaths, typhoid fever 6 cases, erysipelas 21 cases, and puerperal fever 4 cases. Arrangements have been made for the bacteriological examination of sputa in phthisis cases; the question of voluntary notification of this disease is referred to by Dr. Graham.

Hospital Accommodation.—Ten cases were sent to the Marland hospital, belonging to the Rochdale Corporation, viz., scarlet fever 7, and typhoid fever, diphtheria, and erysipelas 1 case each. The annual contribution and maintenance charges have been doubled recently, and Dr. Graham says "our present hospital arrangement is not satisfactory, being too expensive." An attempt has been made to procure more satisfactory arrangements with an adjoining district, but this has not yet led to any practical issue.

Disinfection.—Proper appliances for the disinfection of bedding, clothing, &c., are wanting, but a steam disinfector is about to be provided. Formalin is now used for the fumigation of houses, and 305 rooms were so treated.

Water Supply described as "good."

Sewerage, Scavenging, &c.—During the year application was made to the Local Government Board for borrowing powers to enable the Corporation to deal with the sewage of the outlying districts of Birch, Bowlee, Stakehill, and Slattocks. The offensive condition of the river and of the reservoirs near Rhodes occasioned serious complaint in the autumn. Scavenging is carried out in a fairly satisfactory manner by the Authority, except in Slattocks and Bowlee,

where the work is undertaken by contract. A more systematic method of removing house refuse is required.

Sanitary Inspection.—Nine insanitary houses were dealt with. Bakehouses, slaughter-houses, and lodging-houses are under constant supervision. Little attention is given to dairies and cowsheds; the Inspector reports that the drainage of almost all the farms is in a very insanitary condition, the floors and channels are constructed of pervious materials, and the ventilation and lighting is unsatisfactory. Dairy, &c., regulations have recently been revised, but owing to proposed alterations which make the owners of the farms responsible for structural alterations the Local Government Board have refused their sanction. Amended clauses are now being considered. The examination of 45 canal boats revealed 2 infringements of the Acts. The Inspector (Mr. Norton) gives details of the 348 nuisances abated, after the service of 265 notices, and the institution of legal proceedings in 4 instances. Smoke observations amounted to 105; the time limit of 10 minutes per hour was exceeded on 17 occasions, and in 10 cases the offenders were summoned and fined.

Milnrow.—(Area in acres, 5,198; Census Population, 8,241.) *Medical Officer of Health*, John Chadwick, M.R.C.S.; *Salary*, £40.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	19·0	17·1	20·6
Death-rate	14·4	16·8	15·6
Zymotic death-rate	0·60	2·14	1·22
Phthisis ,,	1·69	1·53	1·22
Respiratory ,,	2·06	2·76	3·69
Rate of deaths under 1 year to 1,000 births	95	190	144

The Census showed that the population had been considerably over-estimated, consequently the death-rates of

previous years appear more favourable than they actually were. The birth-rate shows an increase as compared with last year, but it is below the average of the 10 years, 1891-1900. The general death-rate is reduced 2·4 per 1,000, and the zymotic rate is the lowest recorded during the last decennial period. The deaths of infants under one year to 1,000 births fell from 190 to 95. The number of cases notified (11) was the lowest ever recorded for the district. Scarlet fever accounted for 5 cases 1 death, erysipelas 5 cases, and diphtheria 1 case. Diarrhœa gave rise to 3 deaths and measles 1 death.

Hospital Accommodation.—The joint hospital scheme is progressing. Dr. Chadwick suggests a large joint scheme for the erection of a small-pox hospital for this and neighbouring districts.

Disinfection.—Frazer's apparatus available.

Water Supply is obtained from Rochdale and Oldham for the populous parts, and from wells and springs for the outlying portions of the district.

Sewerage, Scavenging, &c.—On one occasion (June) the Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent. The sewers are flushed at intervals, and a ventilating shaft has been erected. The Authority carry out scavenging in an efficient manner. A commencement has been made with the paving of wet and dirty back streets.

Sanitary Inspection.—Bakehouses and slaughter-houses are in fair condition, and dairies, cowsheds, and milkshops generally give satisfaction. Steps are being taken to improve the water supply of two farms. The Inspector (Mr. Hoyle) reports on the work done in his department. Only 13 notices were required for the abatement of nuisances, but many

insanitary conditions were remedied on his verbal recommendation. Forty-five smoke observations were taken, and notices were served when the time limit was exceeded.

Morecambe.—(Area in acres, 1,801; Estimated Population, 11,931).—*Medical Officer of Health*, J. W. Watterson, M.B.; *Salary*, £50 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	23·3	21·8	23·9
Death-rate	13·1	12·0	13·5
Zymotic death-rate.....	0·83	1·44	1·87
Phthisis ,, ...	0·25	0·36	0·94
Respiratory ,, ...	2·43	1·95	2·62
Rate of deaths under 1 year to 1,000 births.....	125	152	148

The Census, taken on the 31st of March, showed that the estimated population of the previous year was 2,002 higher than the actual enumeration. The birth-rate remains practically the same as the 10 years' average; it varied from 30·8 per 1,000 in East Ward to 15·8 in West Ward. In compliance with the new Local Government Board Tables the death-rate now includes the deaths of all visitors, excepting those occurring in public institutions. Notwithstanding this accession to the number of deaths the mortality statistics are satisfactory, and compare favourably with the averages of the preceding decade. Excluding the deaths of visitors to the town the general death-rate equalled 10·3 per 1,000 of the population. Measles, the cause of 2 deaths, was somewhat prevalent in February and March, but the precautionary measures taken—including school closure—were successful in staying the course of the epidemic. Diarrhœa gave rise to 6 deaths, and diphtheria and scarlet fever 1 death each. Scarlet fever had a diminished prevalence, only 52 cases being notified, against 287 in the previous year; ninety-four per

cent. of the cases received hospital isolation. Typhoid fever gave rise to 13 cases, diphtheria 11, and erysipelas 12. Nine of the diphtheria patients were bacteriologically examined, and in 8 the diagnosis was confirmed. Public libraries and laundries are notified when required, and the School Attendance Officer receives information of all cases of infectious disease.

Hospital Accommodation.—The new hospital—35 beds and 3 cots—has done excellent service. Fifty-three cases were treated, viz., scarlet fever 49, typhoid fever 3, and diphtheria 1.

Disinfection of clothing, &c., was carried out by a Washington Lyons' steam disinfector, and houses (72) were fumigated by formalin or sulphur.

Water Supply.—Quantity satisfactory and quality excellent.

Sewerage, Scavenging, &c.—The new sewage disposal works and new sewering are being actively pushed forward. The sewers in some parts of the town were flushed once a month, and all the sewers were flushed twice during the year. The method of scavenging—undertaken by the Authority—has been much improved. The refuse destructor commenced operations in May.

Sanitary Inspection.—Special inspections of the district are periodically made. Bakehouses are generally satisfactory, and the same may be said of the slaughter-houses with one or two exceptions. A public abattoir would be an improvement. Laundries, factories, and workshops receive attention. Dairies and cowsheds have been systematically visited; some are in good sanitary condition, but a few are only fair. Ships, boats, vans, tents, and premises where offensive trades are carried on, receive regular examination. Privy middens are gradually being abolished in favour of the water-carriage system, and 56 conversions took place during 1901. The

Inspector (Mr. Lamb) gives details of the sanitary work carried out; 312 nuisances were abated, 120 notices served, &c. Valuable meteorological records are published in the report.

Mossley (Borough).—(Area in acres, 3,622; Census Population, 13,452).—*Medical Officer of Health*, J. Healey, M.B.; *Salary*, £50 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	23·5	22·3	22·7
Death-rate	19·4	15·2	16·6
Zymotic death-rate	2·30	1·52	1·37
Phthisis ,,	0·66	0·86	1·52
Respiratory ,,	2·52	3·26	3·32
Rate of deaths under 1 year to 1,000 births	113	130	166

The population has for some years been considerably over-estimated. The general death-rate and zymotic rate for the period under report are much above the average of previous years, but the proportion of deaths of infants under 1 year to 1,000 births is, with one exception, the lowest recorded in the 10 years, 1891-1900. Measles caused only 2 deaths, but was very prevalent in October, especially in Roughtown, where the schools were closed. Diarrhœa accounted for 6 deaths and whooping cough 1 death. There was a large increase in the number of cases of infectious disease notified, due to scarlet fever and diphtheria. The former disease, which was very prevalent in the early part of the year, was responsible for 156 cases 8 deaths, against 94 cases 2 deaths in 1900, and the latter 67 cases 11 deaths against 5 cases 3 deaths. Typhoid fever contributed 12 cases 3 deaths, and erysipelas 2 cases.

Hospital Accommodation—The hospital at May Hills—8 beds—is reserved entirely for small-pox cases. The proposed joint scheme with a neighbouring borough for provision

of hospital accommodation for ordinary infectious disease has fallen through on account of the expense.

Disinfection.—A new Delépine-Thresh disinfector has just commenced work; 258 rooms were fumigated with sulphur.

Water Supply described as good.

Sewerage, Scavenging, &c.—During the past year considerable alterations have been introduced at the sewage works, resulting in the conversion of the treatment from the international to the bacterial system. Scavenging is satisfactorily carried out by the Authority.

Sanitary Inspection.—Bakehouses, slaughter-houses, and lodging-houses are in good condition and kept clean. Dairies and cowsheds are not very satisfactory. Ventilation of several of the factories and workshops has been improved, and in some instances water-closets have been substituted for the old privies. The Inspector (Mr. Taylor) gives details of the nuisances dealt with numbering 350.

Moss Side.—(Area in acres, 421; Estimated Population, 27,677.)—*Medical Officer of Health*, S. Holgate Owen, M.D.; *Salary*, £100 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 10 years 1891-1900.
Birth-rate	16·9	14·4	17·4
Death-rate	13·1	12·9	12·9
Zymotic death-rate	1·44	0·75	1·16
Phthisis ,,	0·97	1·03	1·00
Respiratory ,,	2·74	3·21	2·69
Rate of deaths under 1 year to 1,000 births	155	143	148

The birth and death rates are again low, and vary but little from the average of the 10 years 1891-1900. The

zymotic rate was above the average, the increase being due mainly to diarrhœa, which caused 20 deaths. Whooping cough contributed 2 deaths and measles 8. The latter disease was almost entirely absent until June, when it suddenly became prevalent. One of the schools was threatened with a serious outbreak, and the school authorities deemed it advisable to anticipate the summer holidays by closing the school a little earlier than usual; this proceeding had, in the opinion of Dr. Owen, the effect of preventing an epidemic. The number of notifications of infectious disease (294) was the highest since the Act came into force 11 years ago. The increase was almost entirely due to scarlet fever, which gave rise to 244 cases 6 deaths, against 126 cases 1 death in 1900. The latter part of the year was most affected, 58 per cent. of the total number notified occurring from September to December. The disease, which was of a mild type throughout, was widely distributed, North and Claremont Wards suffering most. As far as could be ascertained the infection spread from case to case by contact, proximity, and infected articles. School attendance, however, seems to have assisted more than any other agency in the spread of the disease, the intervention of the holidays having a marked effect upon the number of notifications. Careful inspections of the schools were made, and the results formed the subject of a special report. Diphtheria was responsible for 24 cases 4 deaths, typhoid fever 15 cases, and erysipelas 11 cases. The voluntary notification of phthisis was adopted at the close of the year.

Hospital Accommodation available at the Manchester Corporation hospital at Monsall; 168 cases were removed (equal to 57 per cent. of the total notifications), viz., scarlet fever 156, diphtheria 9, typhoid fever 2, and erysipelas 1.

Disinfection.—A steam disinfecting chamber is being provided in conjunction with the new refuse destructor.

Water Supply obtained from the Manchester waterworks.

Sewerage, Scavenging, &c.—Sewage is dealt with by precipitation and irrigation. On two occasions, January and October, the Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent. Complaints were made in the south-east portion of the district respecting the effluvium from sewer manholes, but ventilating shafts are now being erected which will, it is hoped, prevent a recurrence of the nuisance. Scavenging is performed by the Authority in a satisfactory manner. A six cell destructor is being erected.

Sanitary Inspection.—Bakehouses are well conducted, but most of them are in cellars. There are no private slaughter-houses, a public abattoir having been provided. Dairies and cowsheds were periodically inspected, and generally gave satisfaction; circulars as to cleanliness, &c., were distributed. Attention is given to factories and workshops. The Inspector (Mr. Ainley) served 294 notices for the abatement of nuisances, all of which were complied with, and in addition 221 insanitary conditions were remedied without notice. Smoke observations are taken weekly.

Much Woolton.—(Area in acres, 792; Census Population, 4,731).—*Medical Officer of Health*, Charles V. Vereker, L.R.C.P.I.; *Salary*, £40.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	25·9	25·5	27·6
Death-rate	16·9	15·6	16·4
Zymotic death-rate	3·17	1·54	1·65
Phthisis ,,	1·47	0·88	1·89
Respiratory ,,	4·01	2·42	3·12
Rate of deaths under 1 year to 1,000 births	130	155	143

With the exception of the infantile mortality the statistics presented by Dr. Vereker do not compare favourably with the

previous year. The death-rate gave an increase of 1·3, the zymotic rate 1·63, and the phthisis and respiratory rates 0·59 and 1·59 per 1,000 respectively. Measles and diarrhœa each caused 7 deaths, and diphtheria contributed 1 death. Only 14 notifications were received, viz., scarlet fever 8, typhoid fever 4, diphtheria 1, and erysipelas 1. The Council have made arrangements for the voluntary notification of cases of phthisis.

Hospital Accommodation. — One bed at the Whiston sanatorium is reserved for the use of this district, and 3 cases of scarlet fever were removed; Dr. Vereker points out that this accommodation is not sufficient to meet the requirements of the district.

Disinfection.—Frazer's hot-air apparatus is used for the disinfection of bedding, clothing, &c. Nine houses were fumigated after infectious disease, and the Council offer to disinfect free of charge after cases of phthisis.

Water Supply of good quality is obtained from the Liverpool Corporation waterworks.

Sewerage, Scavenging, &c.—The sewage from the western portion of the district discharges into the River Mersey through the Garston sewers, and that from the eastern part is treated by irrigation at the sewage farm. Scavenging as performed by the Authority is more satisfactory than formerly; refuse is used principally for agricultural purposes.

Sanitary Inspection.—Eight houses were closed as unfit for human habitation: 630 inspections of houses, premises, &c., took place. Bakehouses (4) are described as "fairly good, slaughter-houses (5) as "satisfactory," and dairies and cowsheds (11) "good." Nine conversions of privies to water-closets took place. The Inspector secured the abatement of 60 nuisances as a result of 16 notices. Fifty smoke observations were taken.

Nelson (Borough).—Area in acres, 3,466; Estimated Population, 33,000).—*Medical Officer of Health*, A. P. Millar, M.D.; *Salary*, £80.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate.....	24·2 ...	22·6 ...	29·1
Death-rate	13·6 ...	12·2 ...	14·5
Zymotic death-rate.....	1·12 ...	0·71 ...	1·81
Phthisis ,, ...	0·60 ...	0·85 ...	0·84
Respiratory ,, ...	3·15 ...	3·02 ...	3·17
Rate of deaths under 1 year to 1,000 births.....	142 ...	127 ...	152

The population, as shown by the enumeration at the Census, was 2,184 over-estimated. The mortality statistics for the year under review, although not quite so low as in 1900, may be considered satisfactory and compare favourably with the averages of the 10 years 1891-1900. Twenty per cent. of the total deaths were of persons over 65 years of age. The birth-rate—with the exception of 1900—was the lowest recorded during the past 10 years. Whooping cough was somewhat prevalent and caused 14 deaths, and diarrhœa gave rise to 8 deaths. The number of notifications received was much less than last year's total, the decrease being due mainly to scarlet fever, which caused 114 cases 4 deaths, against 291 cases 10 deaths in 1900. Typhoid fever was responsible for 15 cases 4 deaths, diphtheria and membranous croup 24 cases 7 deaths, erysipelas 25 cases, and puerperal fever 1 case.

Hospital Accommodation.—A temporary hospital is provided at Catlow for small-pox cases. Last year it was reported that "plans for a proposed isolation hospital are now in preparation, borrowing powers for the site having already been obtained," but, apparently, this scheme has fallen through, as the present report states—"Colne (B), conjointly

with Nelson, are looking out for a site for an infectious hospital."

Disinfection.—A Local Government Board Inquiry has been held with reference to the provision of a steam disinfector, but the result is not yet to hand.

Water Supply described as "good." During the summer months the supply was inadequate, but the quality was well maintained.

Sewerage, Scavenging, &c.—Samples of effluent from the sewage works have not satisfied the Ribble Joint Committee. The Chief Inspector reported in December—"considering the extent of the pollution occuring at Nelson the progress made at the sewage works cannot be considered satisfactory. Six primary contact beds—out of the necessary twelve—have been laid down, but one of these at the present time is out of operation for the purpose of cleansing and relaying." Scavenging is "very efficiently carried out by the Corporation staff." The refuse destructor has given excellent results.

Sanitary Inspection.—Bakehouses keep in good condition, and the 19 slaughter-houses are described as "fair." Latterly much improvement has been effected in the storage and collection of slaughter-house offal. Dairies, cowsheds, and milkshops are fairly well kept, but the amount of air space in shippons required by the regulations is far too low, viz., 350 cubic feet per cow. Factories and workshops receive frequent visits. Thirteen privy middens were converted to water closets. The Inspector (Mr. Priestley) secured the abatement of 276 nuisances, but only 40 statutory notices were required; in one instance legal proceedings were instituted. Special consideration has been given to the smoke nuisance, and observations will now be regularly taken.

Newton-in-Makerfield.—(Area in acres, 3,105; Estimated Population, 16,808.)—*Medical Officer of Health*, J. Webb Watkins, M.D.; *Salary*, £75.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	29·3	36·0	35·4
Death-rate	14·6	15·7	16·1
Zymotic death-rate	1·66	1·48	2·27
Phthisis ,,	0·47	0·71	0·83
Respiratory ,,	2·97	3·18	3·35
Rate of deaths under 1 year to 1,000 births	163	133	148

The Census of 1901 revealed an excess of 1,065 over the estimated population. With the exception of the infantile mortality, the statistics for 1901 compare favourably with those of the preceding decade. Diarrhœa was the cause of 14 deaths, whooping cough 5, and measles 2. In dealing with the latter disease school closure was resorted to. The Medical Officer of Health reports that "the number of infectious cases was abnormal, and should be an object lesson to us. I attribute the spread of scarlet fever (which caused 166 cases 2 deaths) mainly to our not having command of the provision for isolation of the early cases. Isolation hospitals are not primarily for epidemics, but to prevent the earliest cases in an invasion multiplying till they are of epidemic proportion. It is not hard to believe that if the first six of those 166 cases had been absolutely isolated none other might have followed." Typhoid fever gave rise to 9 cases 1 death, diphtheria and membranous croup 27 cases 4 deaths, erysipelas 16 cases, and puerperal fever 1 case. Dr. Watkins says: "I am still of opinion that the voluntary notification of phthisis would not ensure the practical results so much to be desired."

Hospital Accommodation.—Fifty-six scarlet fever and 3 typhoid fever patients were removed to the Warrington Corporation hospital. The present accommodation is described

as insufficient, the number of beds set apart for the use of this district is "uncertain and variable, sometimes none." "Past experience demonstrates the absolute necessity of an isolation hospital for this district," and provision is also required for small-pox.

Disinfection.—No proper appliances.

Water Supply.—The new water scheme has been considerably extended during the year.

Sewerage, Scavenging, &c.—Much activity has been displayed in the extension of sewerage and the development of the bacterial process in the treatment of sewage. The condition of Millingford brook has improved. Scavenging is satisfactorily performed by the Authority.

Sanitary Inspection.—Two houses were condemned—one has been rendered habitable and the other closed. Bakehouses, slaughter-houses, lodging-houses, factories, and workshops have, with few exceptions, given satisfaction. Dairies and cowsheds are described "as good as old farm buildings can be"; they are subject to regulations. The nuisances abated numbered 508, and the notices served 250. No smoke observations were taken.

Norden.—(Area in acres, 5,358; Census Population, 3,907). *Medical Officer of Health,* John A. Grindrod, M.R.C.S.; *Salary,* £30.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate.....	25·8 ...	20·0 ...	20·4
Death-rate	13·0 ...	14·7 ...	15·1
Zymotic death-rate.....	1·02 ...	1·50 ...	1·22
Phthisis ,, ...	0·51 ...	1·75 ...	0·97
Respiratory ,, ...	2·81 ...	2·00 ...	2·51
Rate of deaths under 1 year to 1,000 births.....	148 ...	112 ...	124

The birth-rate for the year under report is the highest

recorded during the past 10 years, and is 5·8 per 1,000 above the average of the previous year. The death-rate shows a reduction of 1·7 as compared with 1900. The infantile mortality is not so favourable as in past years—the practice of taking young infants out in the early morning whilst the mothers go to work is reported as the cause of illnesses from which some of the children died. The zymotic rate is accounted for by 3 deaths from membranous croup and 1 death from diarrhœa. Only 15 notifications were received, viz., scarlet fever 5, membranous croup 6, erysipelas 3, and puerperal fever 1.

Hospital Accommodation.—Nil.

Disinfection.—No apparatus. Houses fumigated with sulphur.

Water Supply of good quality obtained from the Heywood Corporation waterworks.

Sewerage, Scavenging, &c.—Unsatisfactory samples of effluent from the outfall works were obtained by the Mersey and Irwell Watershed officials in January and May. It is, however, intended to apply to the Local Government Board for sanction to borrow £12,000 for sewage purposes. The Authority perform the scavenging in a satisfactory manner; the refuse being disposed of for agricultural purposes.

Sanitary Inspection.—Bakehouses are said to be in very good order, and slaughter-houses are described as "cleanly." Many of the dairies and cowsheds comply with sanitary requirements, but a few are wanting in ventilation, light, &c. Attention is given to the sanitary arrangements of factories and workshops. Only 6 notices were required for the abatement of nuisances. A few smoke observations were taken, but no notices served.

Ormskirk.—(Area in acres, 574; Census Population, 6,857). *Medical Officer of Health*, WILLIAM ANDERTON, F.R.C.S.E.; *Salary*, £50.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	32·8	35·2	34·8
Death-rate	19·5	24·1	23·7
Zymotic death-rate	1·02	1·58	1·99
Phthisis ,,	1·60	4·12	2·15
Respiratory ,,	4·22	4·60	6·61
Rate of deaths under 1 year to 1,000 births	160	121	158

The birth and death rates are the lowest recorded during the 10 years, 1891-1900. The latter rate excludes 67 deaths in public institutions of non-residents which have been allocated to the districts to which they belong. The zymotic, phthisis, and respiratory rates are considerably below the average of previous years, but the infantile mortality is less favourable. The principal zymotic diseases accounted for 7 deaths, viz., diarrhœa 6, and diphtheria 1. Scarlet fever was responsible for 12 attacks, diphtheria together with membranous croup 9, erysipelas 9, and typhoid fever 2.

Hospital Accommodation.—A small hospital with 6 beds is provided; 11 scarlet fever and 4 diphtheria patients were treated.

Disinfection.—The steam apparatus was used 22 times for the disinfection of clothes, bedding, &c., and 38 houses were fumigated.

Water Supply, from Council's own waterworks, very good and abundant, averaging 23 gallons per head per day.

Sewerage, Scavenging, &c. — Samples drawn from the outfall works have been satisfactory in character. The sewage is well distributed over the farm, and the underdrained

effluent therefrom receives further treatment in bacterial filter beds. Flushing of the sewers takes place from time to time, and a ventilating shaft has been erected. The Authority undertake scavenging.

Sanitary Inspection. — The Insanitary Property Committee have taken action in respect of insanitary dwellings, as follows :—

Number of houses to be demolished	124
,, ,, reconstructed	8
,, now empty	73
,, already demolished	8
,, put in good state of repair ...	31

The courts and alleys of the town have been systematically swept and cleaned, and the drains flushed and disinfected. Dairies, cowsheds, and milkshops do not altogether give satisfaction, but bakehouses, slaughter-houses, and lodging-houses appear to comply with the local requirements. Only 3 notices were served for sanitary improvements, but many nuisances were abated on the verbal recommendation of the officials.

Orrell.—(Area in acres, 1,617; Census Population, 5,436.) *Medical Officer of Health*, J. Lloyd Johnstone, M.R.C.S.; *Salary*, £30.

Per 1,000 of Population.	1901.	1900	Mean of 10 years, 1891-1900.
Birth-rate.....	38·4 ...	40·0 ...	40·6
Death-rate	18·2 ...	20·6 ...	19·5
Zymotic death-rate	4·96 ...	3·30 ...	2·74
Phthisis ,, ...	0·91 ...	1·75 ...	1·01
Respiratory ,, ...	2·39 ...	3·11 ...	3·77
Rate of deaths under 1 year to 1,000 births.....	191 ...	160 ...	146

The birth-rate, although high, is below the average of previous years, and the death-rate is the lowest recorded during the last 5 years. The zymotic and infant rates are,

however, very high, mainly due to 18 deaths from diarrhœa. Measles and whooping cough each contributed 1 fatality. Typhoid fever caused 45 cases and 5 deaths, and scarlet fever 26 cases 2 deaths. The remaining notifications were diphtheria 2, erysipelas 6, and puerperal fever 2.

Hospital Accommodation.—Nil.

Disinfection.—No apparatus.

Water Supply abundant and good.

Sewerage, Scavenging, &c.—The sewage is conveyed to the sewers of the Wigan Corporation. The Authority carry out scavenging in a "fairly satisfactory" manner, but a difficulty is experienced in getting house refuse regularly removed.

Sanitary Inspection.—Five insanitary dwellings have been reported upon. Slaughter-houses are described as "good," but dairies and cowsheds—not subject to regulations—are only in fair condition. There are no bakehouses or factories and workshops in the district. Sixty-seven nuisances were abated as the result of 20 written and several verbal notices.

Oswaldtwistle.—(Area in acres, 4,885; Estimated Population, 14,500.)—*Medical Officer of Health*, Henry Duckworth, M.B.; *Salary*, £60.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	26·6	26·5	29·0
Death-rate	17·5	19·7	17·2
Zymotic death-rate	2·20	2·38	2·07
Phthisis ,,	0·75	1·03	0·82
Respiratory ,,	3·58	5·48	4·34
Rate of deaths under 1 year to 1,000 births	209	177	161

The Census showed that the population of the previous year had been over-estimated by 1,308. As compared with

1900 the birth-rate shows a fractional increase, and the death-rate a decrease of 2·2 per 1,000. The zymotic, phthisis, and respiratory rates are more favourable, but the proportion of infant deaths to births rose considerably, and exceeds the average of the County districts. Measles only caused 1 death, the outbreak which occurred at the end of last year gradually subsiding during January and February. One school was closed for a period of three weeks owing to the presence of this disease amongst the children in attendance. Diarrhœa gave rise to 7 deaths, and whooping cough 4. Scarlet fever was responsible for 71 cases 5 deaths, typhoid fever 9 cases 3 deaths, diphtheria and membranous croup 30 cases 12 deaths, and erysipelas 10 cases.

Hospital Accommodation.—The only provision is a farm house kept in readiness for small-pox.

Disinfection.—Steam apparatus available.

Water Supply obtained from the Council's own reservoirs.

Sewerage, Scavenging, &c.—Improvements are being made at the sewage works, but progress during the year has been slow. Scavenging, as performed by the Authority, is on the whole satisfactory.

Sanitary Inspection. — Bakehouses, slaughter-houses, lodging-houses, dairies, cowsheds, and milkshops, and factories and workshops are all described as "satisfactory." Sixty-three conversions of privy middens to the water-carriage system took place during 1900, making a total of 1,370 water-closets now in the district. Doubt is entertained as to whether some of the old drains are adequate for the increased work thrown upon them by these alterations. Complaints were again received regarding the noxious vapours from a paper works, although the owners state that they have taken steps to mitigate the nuisance. The Inspector served 83 notices for the abatement of 72 nuisances.

Padiham.—(Area in acres, 970; Census Population, 12,205). *Medical Officer of Health*, W. Smithies, L.R.C.P.; *Salary*, £25.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	27·9	24·0	27·0
Death-rate	20·4	15·5	17·1
Zymotic death-rate	1·63	1·42	2·08
Phthisis ,,	1·39	1·00	0·97
Respiratory ,,	2·70	2·57	3·67
Rate of deaths under 1 year to 1,000 births	219	189	181

The population of last year, as shown by the Census, was over-estimated by 1,795. The birth-rate exceeds the average, and the death-rate is the highest recorded during the 10 years 1891-1900. The infantile mortality still keeps high, and much above the average. Referring to this excessive mortality amongst infants, Dr. Smithies says—"the nursing-out system is the chief cause, added to the fact that many of the infants are congenitally weak, this being due very often to the constant employment of the mothers in the mill." Diarrhœa was responsible for 12 deaths, and measles and whooping-cough 1 death each. Scarlet fever gave rise to 39 cases 2 deaths; a difficulty was experienced in getting consent of parents to the removal of patients to hospital, probably owing to its distance from the district, and several cases were, no doubt, attributable to the want of proper isolation in dwelling-houses. Typhoid fever was the cause of 8 cases 2 deaths, diphtheria 5 cases 2 deaths, erysipelas 11 cases, and continued fever 2 cases.

Hospital Accommodation was provided at the joint sanatorium at Burnley for 8 scarlet fever patients and 1 diphtheria patient.

Disinfection.—No apparatus. The Medical Officer of

Health again strongly urges the provision of efficient appliances.

Water Supply "very good."

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and land filtration. The irrigation area is rather too small for the amount of work it has to perform. Scavenging is carried out in a satisfactory manner by the Council's employees. Refuse is burnt in a destructor.

Sanitary Inspection.—A considerable amount of overcrowding takes place in the smaller dwellings. Bakehouses, slaughter-houses, and lodging-houses are in satisfactory condition, and the same may be said of factories and workshops. It is to be regretted that dairy and cowshed regulations have not yet been adopted. The Inspector served 23 notices for nuisance abatement. Forty-three smoke observations were taken.

Pemberton.—(Area in acres, 2,895; Census Population, 21,664).—*Medical Officer of Health*, Robert Hartley, M.R.C.S.; *Salary*, £60.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	40·0	38·3	40·0
Death-rate	18·2	19·0	20·0
Zymotic death-rate	3·09	3·35	3·50
Phthisis ,,	0·78	0·70	0·85
Respiratory ,,	3·46	3·87	4·13
Rate of deaths under 1 year to 1,000 births	169	187	176

Last year's population was over-stated by 1,488. The birth-rate continues high, but the death-rate is 1·8 per 1,000 below the average of the decennial period 1891-1900. The zymotic-rate again exceeds the average of the County urban

districts, and as in 1900, is mainly due to the large number of deaths from diarrhœa (49), which alone equalled a rate of 2·2 per 1,000 of the population. The infantile mortality is more favourable than in previous years, and Dr. Hartley believes that further reduction might take place if young children were not so much exposed to the night air and inclement weather. Measles, which gave rise to 6 deaths, became prevalent during October; in dealing with the outbreak four schools were closed, and subsequently disinfected and cleansed. The notifications received fell from 260 in 1900 to 150 in the year under review. Typhoid fever showed the greatest reduction, with 38 cases 4 deaths against 120 cases 18 deaths in the previous year. Scarlet fever caused 64 cases 5 deaths against 108 cases 5 deaths. The remaining notifications were diphtheria and membranous croup 9 (3 fatal), erysipelas 34, puerperal fever 4, and continued fever 1.

Hospital Accommodation.—The hospital consists of 4 wards with 2 beds each; only nine cases were treated, viz., scarlet fever 3, and typhoid fever 6.

Disinfection is carried out by dry heat at the hospital.

Water Supply described as "good."

Sewerage, Scavenging, &c.—On one occasion (May) the Ribble Joint Committee were not satisfied with the character of the effluent from the sewage works. Improvements are now taking place. Complaints of offensive smells from the sewer manholes received attention. Scavenging is undertaken by the Authority. Dr. Hartley has suggested improvements in the method of nightsoil removal.

Sanitary Inspection.—Many damp and insanitary houses, unpaved back streets, dirty yards, &c., have been improved or cleansed. Fifty-seven privies and ashpits underwent reconstruction, 103 were repaired, and 5 were replaced by water-closets. Bakehouses, slaughter-houses, dairies, and

cowsheds are reported as "generally good." Details are given of the sanitary work carried out; 66 statutory and many verbal notices were required to secure the abatement of 365 nuisances. Frequent smoke observations were taken.

Poulton-le-Fylde.—(Area in acres, 915; Census Population, 2,223.)—*Medical Officer of Health*, E. G. B. Starkie, M.B.; *Salary*, £20.

Per 1,000 of Population.	1901.		(9 months) 1900.
Birth-rate.....	22·9	...	29·8
Death-rate	13·9	...	11·7
Zymotic death-rate.....	0·44	...	nil.
Phthisis ,, ...	nil.	...	2·13
Respiratory ,, ...	1·34	...	nil.
Rate of deaths under 1 year to 1,000 births	137	...	126

The mortality statistics presented by Dr. Starkie may again be considered satisfactory, although not quite so favourable as during the nine months of 1900. The birth-rate showed a substantial decline. Only 1 death was due to zymotic disease, viz., diarrhœa. Scarlet fever gave rise to 5 cases—3 in January and 2 in February. These were merely a continuation of the outbreak which occurred at the end of 1900, and since their convalescence no fresh cases have been reported. Erysipelas caused 2 cases.

Hospital Accommodation.—The joint hospital at Moss Side is almost completed.

Disinfection.—No apparatus.

Water Supply obtained from the Fylde Water Board.

Sewerage, Scavenging, &c.—Sewage is discharged into the tidal portion of the river Wyre at Skippool. The sewers are regularly cleaned out, and flushed once a fortnight in summer, and once a month in winter. It is intended to erect 3 six-inch

ventilating shafts. At the present time the sewage of Little Poulton is received into tanks, from which it overflows into the dykes along the roadside, thereby causing a nuisance in hot and dry weather. Scavenging is in the hands of a contractor; an improvement in the method of emptying ashpits might be effected.

Sanitary Inspection.—Attention is drawn to the state of property in Upper Green. One house was condemned as unfit for human habitation, and subsequently demolished. Bakehouses were found clean, and slaughter-houses, on the whole, well kept, but two of the latter at the rear of Burlington Avenue are in too close proximity to the dwelling-houses. Dairies and cowsheds—subject to regulations—are generally satisfactory. Water-closets were substituted for privy middens on five premises. The Inspector (Mr. Gornall) reports on 15 nuisances which required the service of 14 notices.

Preesall-with-Hackinsall.—(Area in acres, 3,232; Census Population, 1,423.)—*Medical Officer of Health*, W. H. Robinson, M.R.C.S.; *Salary*, £20.

Per 1,000 of Population.	1901.		(9 months) 1900.
Birth-rate	30·2	...	27·5
Death-rate	14·0	...	7·0
Zymotic death-rate	2·81	...	2·66
Phthisis ,,	nil.	...	nil.
Respiratory ,,	2·10	...	0·88
Rate of deaths under 1 year to 1,000 births	23	...	32

The general death-rate, although well below the average of the County urban districts, is double that of the previous nine months; the zymotic rate also exceeds the average, but the proportion of infant deaths to births is extremely low. The outbreak of scarlet fever which commenced during the later

months of 1900 prevailed from January to May, 13 cases being reported, with 2 deaths. One case of typhoid fever—probably imported—terminated fatally. Diphtheria caused 3 cases, erysipelas 1 case, and diarrhœa 1 death.

Hospital Accommodation. — No provision is made for isolating ordinary infectious diseases, but the joint hospital at Elswick will soon be available for small-pox.

Disinfection.—No apparatus. Dr. Robinson suggests that a neighbouring Authority be approached with a view to purchasing efficient appliances for the joint use of both districts.

Water Supply is at present very poor and totally inadequate for the needs of the district. Efforts are being made in conjunction with adjoining townships to obtain a more satisfactory supply.

Sewerage, Scavenging, &c.—It is to be regretted that nothing has been done with regard to sewerage and sewage disposal. Last year the Medical Officer of Health reported on the unsatisfactory character of the drainage at Knott End and Preesall, and described the state of things as very dangerous to health and requiring immediate attention; but apparently the Council do not fully recognise their responsibilities in this matter. Scavenging in the more populous parts is now undertaken by the Authority, and described as fairly satisfactory. The refuse is used for agricultural purposes.

Sanitary Inspection.—Slaughter-houses are said to be fairly good, but bakehouses and dairies and cowsheds are not inspected. Eight notices were served and 5 nuisances abated. Again I have to report that sanitary matters in this district do not receive from the Council the attention they deserve.

Prescot.—(Area in acres, 297; Census Population, 7,855.) *Medical Officer of Health,* Egerton F. Hall, M.D.; *Salary* £35.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	35·2	36·6	38·8
Death-rate	18·8	18·1	19·5
Zymotic death-rate	2·03	1·87	2·57
Phthisis ,,	1·27	1·00	0·81
Respiratory ,,	2·54	4·25	4·31
Rate of deaths under 1 year to 1,000 births	169	143	165

The birth and death rates are 3·6 and 0·7 per 1,000 respectively below the averages of the 10 years 1891-1900, the zymotic-rate is also reduced, but the infantile mortality is slightly less favourable. Diarrhœa, with 9 deaths, was the most fatal of the zymotic diseases. Typhoid fever gave rise to 35 cases 6 deaths, and was present almost continuously after May, but no special cause could be discovered for the origin of the outbreak. Not a single case of scarlet fever was reported until late in the summer, and then only 5 attacks took place. Diphtheria caused 1 case (fatal), erysipelas 2 cases, and continued fever 5 cases.

Hospital Accommodation.—One bed is reserved at the Whiston sanatorium for the use of this district; 5 cases were removed—4 typhoid fever and 1 scarlet fever.

Disinfection.—Steam apparatus at hospital available.

Water Supply good.

Sewerage, Scavenging, &c.—The sewage farms appear to be conducted satisfactorily. Scavenging is in the hands of the Authority.

Sanitary Inspection.—Four houses were condemned as unfit for human habitation. A long row of insanitary dwellings

were pulled down, and several houses in Highfield Square—condemned some time ago—were made habitable. Bakehouses, slaughterhouses, and dairies and cowsheds are described as "fair." Fifteen privy middens were converted to water-closets, and 54 others were improved. The service of 134 notices secured the abatement of 154 nuisances.

Prestwich.—(Area in acres, 3,167; Census Population (excluding Asylum), 9,842.)—*Medical Officer of Health*, Fred. Stephenson, L.R.C.P.E.; *Salary*, £50 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	21·5	20·0	24·8
Death-rate	15·7	12·0	14·3
Zymotic death-rate	2·74	1·91	1·55
Phthisis ,,	1·11	0·95	1·06
Respiratory ,,	2·84	1·65	2·55
Rate of deaths under 1 year to 1,000 births	117	84	120

The population on which the averages are calculated excludes 2,997 persons in the County Asylum, and the deaths occurring in that Institution are also excluded. The birth-rate remains low, and the death-rate is lower than the average of the County urban districts. Measles appeared in the Rainsough district in October in a mild form, and in consequence the infant school was closed for a period of three weeks; fortunately only 2 deaths were ascribed to this disease. Diarrhœa gave rise to 4 deaths, and whooping-cough 1 death. Diphtheria again had an extensive prevalence, 73 cases being notified with 15 deaths, against 76 cases 17 deaths last year. In consequence of the continued presence of this disease the Local Government Board, in May, sent one of their Medical Inspectors to hold an inquiry. Scarlet fever cases were less numerous than in 1900, 27 being notified with 3 deaths, as compared with 79 cases 4 deaths.

Typhoid fever gave rise to 4 cases 2 deaths, and erysipelas 4 cases. Bacteriological examination in cases of diphtheria and typhoid fever proved useful; of 8 diphtheria cases examined 5 were verified, and in the 3 typhoid fever cases submitted the diagnosis was confirmed.

Hospital Accommodation.—The Salford Corporation hospital at Ladywell is available, and 58 cases from this district were treated there, viz., diphtheria 43, scarlet fever 14, and typhoid fever 1.

Disinfection.—No proper appliances. Houses fumigated with sulphur.

Water Supply.—The Corporations of Manchester and Bury supply water to the villages of Prestwich, Rooden Lane, and Rainsough, and Heywood Corporation water is laid on to the Simister Lane district. Manchester and Heywood water gives satisfaction, but at times the Bury water is very dirty and frequent complaints have been made.

Sewerage, Scavenging, &c.—On four occasions during the year the Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent from the outfall works. Scavenging is efficiently performed by the Authority; the refuse being deposited on land which will not be used for building purposes.

Sanitary Inspection.—Bakehouses (6), slaughter-houses (3), and dairies and cowsheds (14) are all described as "good." Many of the latter have recently been improved to make them comply with the new regulations now in force. Factories and workshops are under supervision. Several privy middens were converted to water-closets during the year. The Inspector secured the abatement of 235 nuisances, 72 after the service of formal notices, and 163 on his verbal recommendation. Forty-two smoke observations were taken, and several offenders were requested to appear before the Committee.

Radcliffe.—(Area in acres, 3,098; Estimated Population, 25,400).—*Medical Officer of Health*, Wm. Gill, L.R.C.P.; *Salary*, £60 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 8 years, 1893-1900.
Birth-rate.....	25·0 ...	27·0 ...	28·0
Death-rate	18·3 ...	18·2 ...	17·9
Zymotic death-rate..... ...	2·79 ...	2·85 ...	2·72
Phthisis ,, ...	1·22 ...	1·00 ...	0·97
Respiratory ,, ...	3·85 ...	4·70 ...	3·96
Rate of deaths under 1 year to 1,000 births.	191 ...	198 ...	191

The Census showed that the population of 1900 had been over-estimated by 1,632, consequently the averages of the last few years appear more favourable than they actually were. As compared with the mean of the 8 years 1893-1900 the birth-rate shows a reduction of 3 per 1,000, but the mortality statistics vary but little. Radcliffe Bridge Ward had the lowest mortality and Stand Lane Ward the highest—just the reverse of last year. Measles caused 8 deaths, and was prevalent in the autumn in Radcliffe Hall Ward, necessitating school closure. Diarrhœa, with 36 deaths, again proved unusually fatal. Whooping cough was responsible for 3 deaths. Of the notifiable diseases diphtheria—together with membranous croup—gave rise to the most trouble, 55 cases and 16 deaths being ascribed to this cause. Like measles this disease was very prevalent in Radcliffe Hall Ward in the autumn, 72 per cent. of the total cases occurring in this portion of the district. Scarlet fever was the cause of 27 cases, typhoid fever 32 cases 8 deaths, erysipelas 25 cases, and continued fever 2 cases.

Hospital Accommodation.—Difficulties have arisen which have prevented a commencement being made with the erection of the joint hospital. The Medical Officer of Health urges the early provision of accommodation for small-pox cases.

Disinfection.—No apparatus; 87 houses fumigated.

Water Supply.—"Owing to the long-continued dry weather the water supply (obtained from the Bury, &c., Joint Board) was deficient in both quantity and quality." Dr. Gill reports:—"I am of opinion that filtration of the water is absolutely necessary before being supplied to consumers."

Sewerage, Scavenging, &c.—On one occasion (September) the Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent from the outfall works. Scavenging, as performed by the Authority, gives satisfaction.

Sanitary Inspection.—Bakehouses, slaughter-houses, and lodging-houses are described as "satisfactory," and dairies, cowsheds, and milkshops as "good." Amended regulations relating to increased air space in cowsheds will take effect from 1st March, 1902. Canal boats are examined, and attention is given to factories and workshops. The Inspector gives details of 1,601 nuisances which received attention. Seventy-six smoke observations were taken.

Rainford.—(Area in acres, 5,877; Census Population, 3,359.) —*Medical Officer of Health*, Frank Prosser, M.B.; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	28·5	24·9	30·1
Death-rate	13·3	15·8	15·5
Zymotic death-rate	1·78	1·55	1·66
Phthisis ,,	0·29	nil.	1·19
Respiratory ,,	1·78	3·11	3·14
Rate of deaths under 1 year to 1,000 births	125	104	110

Owing to the population being over-estimated the rates of the last few years are unduly favourable. The birth-rate

showed an increase of 3·6 per 1,000 of the population as compared with the previous year, while the death-rate was the lowest recorded since 1890. The zymotic rate and the proportion of infant deaths to births were above the average of the past decade. Six deaths were ascribed to the principal zymotic diseases, viz., diarrhœa 2, diphtheria 2, whooping cough 1, and scarlet fever 1. Only 36 notifications of infectious disease were received, the lowest number since 1895. Of these scarlet fever contributed 18 (against 51 last year), typhoid fever 10, diphtheria 3, and erysipelas 5. Two of the typhoid fever cases were in a house where the water supply at the time was of a questionable character, and in another case the privy midden was much too near the house. Both these matters are receiving attention.

Hospital Accommodation.—A cottage with 4 beds is used for isolation purposes. Five cases of scarlet fever were treated during the year.

Disinfection.—No apparatus. Houses fumigated with sulphur.

Water Supply—obtained chiefly from St. Helens—is good and abundant. Extensions of the supply have recently taken place.

Sewerage, Scavenging, &c.—The sewage is mostly discharged into cesspools. Scavenging is not satisfactorily performed, householders being responsible. An improvement would no doubt be effected if the Council undertook this work.

Sanitary Inspection. — Bakehouses, lodging-houses, factories, and workshops, are in good condition, and the only slaughter-house in the district is properly kept. Dairies cowsheds and milkshops—subject to regulations—are well ventilated and clean. Sixty notices were issued for the abatement of nuisances, and all were complied with.

Ramsbottom.—(Area in acres, 6,424; Census Population, 15,920.)—*Medical Officer of Health*, William Deans, M.B., *Salary*, £60.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	22·8	18·8	23·3
Death-rate	15·7	15·4	15·2
Zymotic death-rate	1·38	0·92	1·47
Phthisis ,,	1·50	1·30	1·25
Respiratory ,,	2·44	3·47	3·54
Rate of deaths under 1 year to 1,000 births	132	132	129

In this district the Census showed that last year's population was 2,480 over-estimated, and this would, of course, have a material effect in reducing the averages. The mortality statistics for 1901 vary but little from the average of the preceding decennial period. Diarrhœa gave rise to 15 deaths and whooping-cough 1 death. The latter disease in November was somewhat prevalent amongst the children attending St. Paul's School, and closure was adopted. Scarlet fever had a diminished prevalence, 21 cases being notified, against 54 last year. Typhoid fever was the cause of 7 cases 2 deaths, diphtheria and membranous croup 8 cases 4 deaths, erysipelas 2 cases, and puerperal fever 1 case. Several of the typhoid fever and diphtheria attacks were, no doubt, due to insanitary conditions of dwellings or immediate surroundings.

Hospital Accommodation.—The joint hospital scheme is still in abeyance. One case of scarlet fever was removed to the Bury Corporation hospital.

Disinfection.—No apparatus. Formaldehyde used for disinfection of houses.

Water Supply.—The chief supply is obtained from the Hapton and Calf Hey reservoirs belonging to the Bury, &c., Joint Board. Dr. Deans states that "the condition of the

water has at times been such as to render it unfit for human consumption." As reported last year Brooksbottoms and Summerseat rely on water insufficient in quantity, and liable to pollution.

Sewerage, Scavenging, &c.—The Order of Court obtained by the Mersey and Irwell Joint Committee requiring this Authority to improve their method of sewage treatment was, in October, extended. Five thermo-bacterial filters are being constructed, but progress has been very slow. A considerable length of new sewer has been laid, and in consequence of complaints of objectionable smells 20 manholes have been closed. A number of private streets require sewering, especially in East Ward; in this neighbourhood many property owners are desirous of converting existing privies into water closets, but cannot do so until adequate sewers are provided. The scavenging of three wards is undertaken by the Authority, and in one ward the work is done by contract. The method of disposing of the refuse on tips is not satisfactory. A destructor is recommended. The wet and dirty condition of roads in the Summerseat and Brooksbottoms district requires early attention.

Sanitary Inspection.—Seven back-to-back houses condemned last year were made into through houses, and several others will shortly be demolished. Bakehouses, slaughter-houses, lodging-houses, dairies, cowsheds, and milkshops receive periodical inspection, and many improvements have been effected during the year. Factories and workshops are also under constant supervision. Fifty-six privy middens were transformed to the water-carriage system, and 50 additional water-closets were provided; 79 privies underwent conversion to the pail system. Unsound food amounting to 720 lbs. was seized and destroyed; in 2 instances legal proceedings followed. The Inspector (Mr. Haworth) served 75 notices, and wrote 172 letters to secure the abatement of 519 nuisances. Six smoke observations were taken.

Rawtenstall (Borough).—(Area in acres, 9,535; Estimated Population, 31,090).—*Medical Officer of Health*, R. Smith, M.B., D.P.H.; *Salary*, £110.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years 1891-1900.
Birth-rate	23·1	24·4	27·1
Death-rate	16·7	16·8	18·2
Zymotic death-rate	0·99	2·27	1·99
Phthisis ,,	0·80	1·56	1·25
Respiratory ,,	3·40	3·41	4·62
Rate of deaths under 1 year to 1,000 births	145	152	156

The birth-rate is the lowest recorded during the past 10 years, and the death-rate is 1·5 per 1,000 below the average of that period. The zymotic, phthisis, respiratory, and infant rates are all below the average of previous years. Measles and whooping cough have been almost entirely absent during the period under review; the latter caused 2 deaths, but measles did not give rise to a single fatality. Diarrhœa was responsible for 14 deaths. Scarlet fever had a diminished prevalence with 165 cases 6 deaths, against 290 cases 19 deaths in 1900. The majority of the attacks occurred in the early part of the year, and Dr. Smith had some difficulty in dealing with the cases, owing to the absence of hospital accommodation, Typhoid fever accounted for 3 deaths out of 16 cases notified; of 7 cases submitted to Widal's test 2 were not confirmed. Diphtheria and membranous croup gave rise to 13 cases 6 deaths; eight of the cases were examined bacteriologically, and of these 3 were found to have no diphtheritic bacilli present, one was doubtful, and in 4 bacilli were found. In addition bacteriological examinations were made in doubtful cases. The remaining notifications were erysipelas 26, puerperal fever 4, and continued fever 3.

Hospital Accommodation.—A small hospital (12 beds) is reserved for small-pox cases. It is to be regretted that the

Council of this large district have not yet provided accommodation for ordinary infectious diseases.

Disinfection.—Steam apparatus is available. Three schools and 153 houses were fumigated either with formalin or sulphur.

Water Supply.—The main supply is obtained from the Bury, &c., Joint Board, and as in other districts supplied from the same source, complaints have been rife regarding the unfiltered state of the water, especially after the drought, when, owing to the low state of the reservoirs the sudden inrush of water caused the mud and vegetable debris to be stirred up. There are many small supplies which are often "suspicious in quality and deficient in quantity."

Sewerage, Scavenging, &c.—The sewage receives bacterial treatment at the joint outfall works at Ewood Bridge. A considerable length of main and subsidiary sewers were laid during the year. Scavenging is performed in a "moderately efficient manner" by the Corporation staff. The new refuse destructor commenced operations in December.

Sanitary Inspection.—Bakehouses, slaughter-houses, and lodging-houses, with one exception, were satisfactorily conducted. Little attention appears to be paid to dairies and cowsheds, and although regulations have been adopted they are not enforced. Sixty-two privy middens were converted during the year—52 to water-closets and 10 to the pail system. The Corporation make an allowance of £2 for each sanitary closet converted and £1 for each insanitary closet. The Inspector (Mr. Rawling) gives details of the work carried out in his department; 318 nuisances were abated after the service of 222 notices. No smoke observations were taken.

Reddish.—(Area in acres, 1,541; Estimated Population, 8,700.)—*Medical Officer of Health*, T. Hanson Smith, M.B., D.P.H.; *Salary*, £40.

Per 1,000 of Population.	(10 months.) 1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	24·6	27·7	30·4
Death-rate	14·4	16·7	16·7
Zymotic death-rate	1·37	4·09	3·28
Phthisis ,,	1·93	0·56	1·19
Respiratory ,,	2·34	3·29	3·18
Rate of deaths under 1 year to 1,000 births	167	168	158

On the 9th of November this district ceased to form part of the Administrative County by the extension of the County Borough of Stockport. The statistics, therefore, relate to 10 months only. The birth-rate is the lowest recorded during the last 10 years, and—excepting 1898—the same may be said of the death-rate. The zymotic rate is also well below the average, but the proportion of deaths of infants to births was somewhat high. Diarrhœa contributed 6 deaths, and measles, whooping cough, and scarlet fever 1 death each. Sixty-one notifications were received, viz., scarlet fever 42, typhoid fever 9, diphtheria 6, erysipelas 3, and puerperal fever 1. The voluntary notification of phthisis was adopted in July, and 5 cases were reported.

Hospital Accommodation.—Eight scarlet fever patients and 1 typhoid fever patient were removed to the Stockport hospital.

Disinfection.—No apparatus; bedding, &c., occasionally sent to Stockport. Houses disinfected with formalin and sulphur.

Water Supply from Longdendale Valley (Manchester Corporation) unfiltered.

Sewerage, Scavenging, &c.—By the Provisional Order dissolving Reddish, the sewers of this district will be connected to the Stockport sewerage system. Scavenging is "fairly well" performed by the Authority.

Sanitary Inspection.—Bakehouses are described as "good," slaughter-houses "indifferent," and dairies and cowsheds "fair." Improvements were made in the sanitary arrangements of two factories. Details of the sanitary work accomplished cannot be given as the Inspector's report is not supplied.

Rishton.—(Area in acres, 2,985; Census Population, 7,031.) —*Medical Officer of Health,* John Barr, M.B.; *Salary,* £30.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years. 1891-1900.
Birth-rate	23·6	22·1	28·3
Death-rate	14·6	14·3	14·0
Zymotic death-rate	2·70	2·62	1·95
Phthisis ,,	1·40	1·25	0·83
Respiratory ,,	1·84	2·25	2·89
Rate of deaths under 1 year to 1,000 births	144	135	157

The population of last year, as shewn by the Census, was over-estimated by nearly one thousand. The birth-rate is well below the average of the previous 10 years. The general death-rate compares favourably with the mean of the County urban districts, but the zymotic rate is above the average. The latter rate is accounted for by diarrhœa 8 deaths, typhoid fever 5, diphtheria and membranous croup 5, and whooping cough 1. Sixty-two notifications were received, viz., scarlet fever 12, typhoid fever 12, continued fever 10, diphtheria 13, erysipelas 14, and puerperal fever 1.

Hospital Accommodation.—Nil.

Disinfection.—No apparatus.

Water Supply reported as "satisfactory."

Sewerage, Scavenging, &c.—The effluent from the outfall works has not met with the approval of the Ribble Joint Committee. A scheme for supplementing the existing tanks and irrigation area is under consideration. Scavenging, as performed by contract, gives satisfaction.

Sanitary Inspection.—Bakehouses and slaughter-houses comply with sanitary requirements, and dairies, cowsheds, and milkshops—subject to regulations—are said to be in satisfactory condition. The sanitary arrangements of factories and workshops receive attention. The Inspector (Mr. Cornall) served 10 notices for the abatement of nuisances; in one instance legal proceeding were instituted.

Royton.—(Area in acres, 2,145; Estimated Population, 14,900).—*Medical Officer of Health*, Ralph Young, M.D.; *Salary*, £50.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	25·9	24·8	28·0
Death-rate	17·9	18·8	19·1
Zymotic death-rate	2·48	2·59	2·35
Phthisis ,,	0·67	1·16	1·66
Respiratory ,,	4·02	4·22	4·58
Rate of deaths under 1 year to 1,000 births	150	190	168

The decline in the birth-rate, which has gradually taken place during the last few years, was arrested during the period under review, although there was a decrease of 2·1 per 1,000 as compared with the mean of the 10 years 1891-1900. The death-rate was 1·2 per 1,000 below the 10 years' average, and the phthisis, respiratory, and infant rates were also more

favourable. The zymotic rate showed a fractional increase, but was below the average of last year. Measles prevailed in epidemic form during the latter three months of the year, and caused 11 deaths. Dr. Young would like to see this disease made notifiable. Diarrhœa gave rise to 9 deaths and whooping cough 3. Scarlet fever had a diminished prevalence with 92 cases 7 deaths, against 125 cases 8 deaths in 1900. Typhoid fever only caused 2 cases. Diphtheria and membranous croup contributed 9 cases 6 deaths, erysipelas 11 cases, and puerperal fever 2 cases. The Central Wards (Haggate and Dogford) again furnished the greatest amount of infectious sickness.

Hospital Accommodation.—A joint hospital is provided for small-pox cases, but reliance has to be placed on the Oldham Corporation hospital for the isolation of other infectious cases. Eleven cases of scarlet fever were removed during the year.

Disinfection of bedding, clothing, &c., is carried out by dry heat. Formalin is now used for room fumigation.

Water Supply obtained from Oldham Corporation.

Sewerage, Scavenging, &c.—Additional tanks and filter beds at the outfall works are nearing completion. The effluent appears to be of a satisfactory character. Scavenging is performed in an efficient manner by the Council's staff. A refuse destructor is provided.

Sanitary Inspection.—House accommodation is hardly sufficient for the needs of the district. A detailed house-to-house inspection of property situate in Old Edge Lane, Mill Street, and Downing Street revealed about 80 cottages more or less dilapidated and insanitary; notices were at once served upon the respective owners. Slaughter-houses are under the supervision of a Veterinary Inspector, and appear to be in good condition. Bakehouses, lodging-houses, dairies and cowsheds,

and factories and workshops give satisfaction. The Inspector secured the abatement of 135 nuisances, after the service of 62 notices. In 4 instances legal proceedings were instituted for smoke nuisances.

St. Annes-on-the-Sea.—(Area in acres, 3,342; Estimated Population, 7,509.)—*Medical Officer of Health*, Fred Booth, M.D; *Salary*, £60.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	17·5	19·8	18·6
Death-rate	13·7	8·8	9·55
Zymotic death-rate	1·59	0·57	0·43
Phthisis ,,	0·93	1·44	0·78
Respiratory ,,	1·19	2·31	1·91
Rate of deaths under 1 year to 1,000 births	181	102	122

The population during the last 10 years has increased by 4,250. The proportion of males to females at the recent Census was as nearly as possible 7 to 10. The death-rate (13·7) includes the deaths of 14 visitors—excluding these the rate was 12·0, which is an increase of 3·2 over the exceptionally low rate of last year. The zymotic and infant rates are much above the average of previous years. The district has again been exceptionally free from measles, but whooping cough—the cause of 2 deaths—was somewhat prevalent in the spring; the infant department of one school was closed in consequence of this disease. Dr. Booth would like to have both these diseases compulsorily notified, owing to the possibility of cases being imported by visitors. Diarrhœa gave rise to 1 death. Scarlet fever was the cause of 12 cases 1 death, typhoid fever 13 cases 4 deaths, diphtheria 13 cases 4 deaths, and erysipelas 6 cases. Several of the typhoid fever outbreaks were attributed to insanitary conditions of houses or immediate surroundings. The Council supplied

antitoxin free of charge for the treatment of diphtheria cases, and where necessary nurses were also provided.

Hospital Accommodation.—The joint hospital at Moss Side has recently been completed. Four cases were sent to the Blackpool Sanatorium during 1901, viz., typhoid fever 3, and diphtheria 1.

Disinfection.—Steam apparatus is provided in conjunction with the refuse destructor. Rooms are fumigated with formalin or sulphur.

Water Supply obtained from the Fylde Joint Board is of good quality, "but, unfortunately, is very badly filtered, and therefore the cause of a great many complaints, especially in the summer months."

Sewerage, Scavenging, &c.—The sewers of the district have been extended by 9,370 feet; sewage is discharged into the sea without any previous treatment. Scavenging—performed by the Authority—is more satisfactory than formerly, but could be further improved. A refuse destructor is provided.

Sanitary Inspection.—Bakehouses—mostly in cellars—are kept clean and in good condition. Slaughter-houses are all unsatisfactory in structure and position, and several in respect of drainage. It is hoped that a public abattoir will shortly be erected. Dairies, cowsheds, and milkshops—subject to regulations—are described as "fairly satisfactory." It is pleasing to note that arrangements have been made with many owners of cottages to have the privy middens converted into water-closets, the Council allowing £2 per house towards such conversion. Dr. Booth again suggests the provision of cheap baths in the neighbourhood of cottages not provided with such conveniences. Almost every nuisance discovered has been abated.

Skelmersdale.—(Area in acres, 1,942; Census Population, 5,699).—*Medical Officer of Health*, VINCENT O'REILLY, M.B.; *Salary*, £30.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	36·6	30·2	35·7
Death-rate	18·5	16·4	18·5
Zymotic death-rate	1·22	1·91	1·12
Phthisis ,,	1·22	0·44	0·89
Respiratory ,,	4·56	5·58	5·84
Rate of deaths under 1 year to 1,000 births	124	116	165

Last year's population was 1,101 over-estimated, the mortality statistics for that period were therefore under stated. The death-rate for 1901 corresponds exactly with the mean of the 10 years 1891-1900; compared with the same period the zymotic and phthisis rates show slight increases, but the respiratory and infant rates are more favourable. Diarrhœa was prevalent in the summer months, and whooping cough in the latter portion of the year; 2 deaths were attributed to each of these diseases. Scarlet fever gave rise to 35 cases, typhoid fever 6 cases 1 death, diphtheria and membranous croup 2 cases 2 deaths, erysipelas 4 cases and puerperal fever 1 case.

Hospital Accommodation.—A cottage hospital is provided, but, as in 1900, no cases were treated there.

Disinfection.—No apparatus.

Water Supply reported as good.

Sewerage, Scavenging, &c.—"Samples drawn from the two outfall works give cause for no complaint." Scavenging, is satisfactorily performed by the Authority. In the summer months the removal of nightsoil gave rise to complaints, but this has now been remedied.

Sanitary Inspection.—Three houses were condemned as unfit for human habitation. Bakehouses, slaughter-houses, dairies and cowsheds—periodically inspected—are described as "good." During the year improvements have been effected in the condition of many back yards, and in a few instances privy middens have been converted to the water-carriage system. The Inspector (Mr. Corns) served 206 notices for the abatement of nuisances, 194 of which were complied with.

Southport (Borough).—(Area in acres, 5,144; Estimated Population, 48,250.)—*Medical Officer of Health*, John J. Weaver, M.R.C.S.; *Salary*, £475.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate.....	19·4 ...	18·5 ...	21·1
Death-rate	16·0 ...	14·3 ...	14·7
Zymotic death-rate.....	1·61 ...	0·61 ...	0·98
Phthisis ,, ...	1·11 ...	1·24 ...	1·17
Respiratory ,, ...	2·11 ...	1·99 ...	2·43
Rate of deaths under 1 year to 1,000 births.....	166 ...	139 ...	139

The Census showed that the population of 1900 had been over-estimated by 4,155; the proportion of males to females continues the same, namely, 100 of the former to 144 of the latter. The gross death-rate was equal to 16·0, or, after excluding the deaths of 79 visitors 14·51. Zymotic deaths gave a rate of 1 per 1,000 higher than last year, and there was an increase of 27 in the rate of deaths under one year to 1,000 births. Scarlet fever occasioned 230 cases and 7 deaths; in September it was found necessary to close the Marshside day and Sunday schools for one month and again during December; High Park schools were also closed from October 17th for one month. Of 15 cases of diphtheria and membranous croup 3 died; the Medical Officer of Health

states that "the connection between open sewer grids and the prevalence of sore throats and diphtheria is a moot point among sanitary experts, but in the interests of the Borough I consider it most desirable, even if only on sentimental grounds, that when an offensive manhole is complained of means should be taken to prevent the recurrence of complaint either by closing the opening on the ground level, and providing other means of ventilating the sewer such as by means of a tall ventilating shaft, or treating the sewer by Reeve's method." Enteric fever contributed 33 cases and 9 deaths, and diarrhœa 33 deaths; measles and whooping cough, the cause of 1 and 16 deaths respectively, will in future be compulsorily notified in the Borough. In reference to the infant deaths, Dr. Weaver reports that "no special defects were discovered in the houses or streets where these deaths occurred, but the subject is still receiving attention in the hope of some means of lessening this mortality being discovered."

Hospital Accommodation.—Efforts are being made to obtain a suitable site for a new isolation hospital. The existing establishment has also been improved and enlarged. Of 353 infectious cases notified the following—equal to 53·8 per cent.—received hospital isolation, viz. :—diphtheria 15, scarlet fever 160, enteric fever 13, and puerperal fever 1.

Disinfection.—Super-heated steam apparatus (Washington Lyons) provided. Houses disinfected by means of sulphurous acid and formalin.

Water Supply obtained from deep wells at Ormskirk belonging to the Southport Waterworks Company is, "though rather hard, of exceptional purity, and practically unlimited in quantity."

Sewerage, Scavenging, &c.—Sewage flows by gravitation into the estuary of the Ribble about three miles north of the

town. At the sewer outlet "pumping is also being made use of to a small extent, and small experimental filter beds have also recently been put down." Scavenging has been improved and gives satisfaction. Refuse can now be dealt with at the destructor erected near the gasworks without causing a nuisance as formerly.

Sanitary Inspection.—Bakehouses, slaughter-houses, and lodging-houses have been regularly inspected and found to comply with sanitary requirements. Cowsheds are kept in good condition and ample cubic space is allowed to the cattle, viz., 800 cubic feet per head. Legal proceedings were taken against 2 persons, under section 84 of a local Act passed last year, which prohibits any person either suffering from, or in contact with, infectious disease assisting in any occupation connected with food intended for the use of man, or carrying on any business in such a manner as to be likely to spread infectious disease. In the Inspector's department 1,522 notices were issued for sanitary improvements, and in connection with the following matters:—

Houses re-drained	186
House drains unstopped	611
Midden privies converted to water-closets	236
Wet ashpits converted to dry	183
Sundry structural nuisances abated	1171
Drains smoke-tested	655
Smoke observations	6
Visits to workshops and factories	320
,, bakehouses	105
,, laundries	12
,, cowsheds, dairies, and milkshops	341
,, common lodging-houses	199
,, ice cream vendors	18
Houses disinfected	257
Samples taken under the Sale of Food and Drugs Act	111

&c., &c.

Standish-with-Langtree.—(Area in acres, 3,266; Estimated Population, 6,325.) — *Medical Officer of Health*, J. H. Wilson, M.D.; *Salary*, £35.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	33·8	33·3	39·3
Death-rate	17·7	19·4	20·2
Zymotic death-rate	2·84	3·36	3·02
Phthisis ,,	1·10	0·32	0·95
Respiratory ,,	3·32	3·52	4·56
Rate of deaths under 1 year to 1,000 births	196	182	179

The birth-rate, with one exception (1900), is the lowest recorded during the last 10 years, and the death-rate is 2·5 below the mean of that period. The zymotic rate exceeds the average of the County urban districts, and the same may be said of infantile mortality. Diarrhœa, with 12 deaths, alone caused a rate of 1·89 per 1,000 of the population. Whooping cough gave rise to 2 fatalities. Measles—which is notifiable in this district—was the cause of 46 attacks, chiefly in May and June, but no death resulted; exclusion from school of all children from infected houses proved beneficial in preventing the spread of the disease. The notifications amounted to 108, against 276 last year. Scarlet fever had a much diminished prevalence, only 11 cases being reported, against 70 last year. Typhoid fever gave rise to 14 cases 1 death, diphtheria and membranous croup 11 cases 3 deaths, erysipelas 19 cases, continued fever 2 cases, and puerperal fever 5 cases.

Hospital Accommodation.—The only hospital provision is a cottage (6 beds) reserved for small-pox cases.

Disinfection.—No apparatus. Houses fumigated with sulphur.

Water Supply continues of an excellent character

Sewerage, Scavenging, &c.—On one occasion (July) the Ribble Joint Committee complained of the unsatisfactory character of the effluent from the sewage works. Scavenging is carried out by the Council in the village of Standish, but contracted for in the Lower Ground district, and in both instances gives satisfaction.

Sanitary Inspection.—Ten houses were reported as unfit for human habitation, of these 4 were demolished, 3 closed, 2 repaired and made habitable, and 1 is still occupied. Legal proceedings were taken in 2 instances to obtain closing orders. Bakehouses and lodging-houses are inspected and well conducted. All slaughtering is done on private premises, and these are well kept. The dairy and cowsheds regulations adopted last year have resulted in many improvements. Seventy six notices were issued and 140 nuisances abated.

Stretford.—(Area in acres, 3,240; Census Population, 30,436). *Medical Officer of Health*, W. J. Heslop, F.R.C.S.E.; *Salary*, £150.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	20·0	21·8	21·6
Death-rate	14·7	15·8	14·4
Zymotic death-rate	2·06	1·85	1·45
Phthisis ,,	1·08	0·97	1·22
Respiratory ,,	2·26	2·86	2·72
Rate of deaths under 1 year to 1,000 births	148	148	150

The birth-rate (20·0) is the lowest recorded during the last 34 years. The death-rate (14·7), although well below the average of the County urban districts, is fractionally higher than the mean of the preceding decennial period. The zymotic rate also shows a slight increase, but the phthisis, respiratory, and infant rates are reduced. There was a considerable increase

in the number of notifications, 712 cases being reported against 470, 267, and 263 in the three preceding years. Measles, which is notifiable in this district, caused 367 cases 5 deaths, against 299 cases 7 deaths in 1900, and 168 cases 3 deaths in 1899. Dr. Heslop reports :—"I consider that the period has now arrived when measles should be removed from the schedule of notifiable diseases, as the time thus occupied by the staff in dealing with these cases could be better utilised by them in their other sanitary duties." Scarlet fever gave rise to 234 cases, 54 per cent. of which received hospital isolation; 12 deaths took place, nine amongst the patients removed. Typhoid fever was the cause of 17 cases, 3 deaths: in all cases of typhoid fever treated at home galvanised air-tight pails are supplied for the reception of the excreta. Diphtheria and membranous croup were responsible for 65 cases 19 deaths, erysipelas contributed 25 cases, puerperal fever 3 cases, continued fever 1 case, diarrhœa 19 deaths, and whooping cough 5 deaths. Medical practitioners have during the year availed themselves to a considerable extent of the facilities afforded for the bacteriological examination in suspected cases of diphtheria, typhoid fever, and phthisis. Twenty suspected cases of diphtheria have been examined, giving 8 positive results; of the typhoid fever cases examined 10 gave positive results. The sputa in 8 suspected cases of phthisis gave positive results in 2 instances. Members of the medical profession are invited to notify cases of the latter disease.

Hospital Accommodation is available at the Ladywell sanatorium belonging to the Salford Corporation; 164 cases were removed, viz., scarlet fever 127, diphtheria 29, typhoid fever 7, and continued fever 1. The Medical Officer of Health strongly recommends the Council to provide some accommodation for small-pox.

Disinfection.—The steam apparatus was used for the disinfection of 2,546 articles. Sixty-seven schools and 344

rooms were fumigated with sulphur.

Water Supply of good quality is obtained chiefly from the Manchester Corporation. In the outlying districts wells are relied upon.

Sewerage, Scavenging, &c.—Sewage from the Stretford portion of the district receives satisfactory treatment on the Council's farm, and that from the Old Trafford portion is conveyed into the Manchester sewers. Twenty-two additional ventilating shafts have been erected during the year. Of 574 drains of old property tested 289, or 50 per cent., proved defective; and of 816 drains of new property 384, or 47 per cent., were not satisfactory. Complaints have again been made of offensive smells from the Moss Side and Withington sewage farms. Scavenging—in the hands of the Authority—gives satisfaction. A refuse destructor is in operation.

Sanitary Inspection.—To alleviate the overcrowding in Stretford and Longford Wards it is proposed to erect 112 semi-detached workmen's dwellings. Bakehouses (30) and slaughter-houses (8) are visited at regular intervals—one of the former was closed as unsuitable for its purpose. Cow-sheds (24) and milkshops (89) are well kept. The Medical Officer of Health suggests that the dairy, &c., regulations be revised. Factories and workshops came under observation, and several notices were required for sanitary amendments. Two hundred and two privies and 106 ashpits have been replaced by the same number of pedestal closets, dry ash receptacles, or galvanized dust bins. Meat destroyed amounted to 4,120 lbs. The Inspector (Mr. Nuttall) reports upon 1,500 nuisances; 211 notices were issued, and in 10 instances legal proceedings followed. Of 116 smoke observations taken 16 exceeded the time limit of 4 minutes per hour; proceedings were taken against 4 offenders for 7 offences. One firm was fined £5 and costs, and the other cases are pending.

Swinton and Pendlebury.—(Area in acres, 2,212; Census Population, 27,005).—*Medical Officer of Health*, Samuel Hosegood, M.R.C.S.; *Salary*, £90.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	29·9	28·4	32·6
Death-rate	19·2	20·2	20·3
Zymotic death-rate	3·99	4·21	3·37
Phthisis ,,	0·59	0·69	0·95
Respiratory ,,	4·03	5·50	5·00
Rate of deaths under 1 year to 1,000 births	212	192	188

The Census showed that the population of 1900 was over-estimated by 1,715. The birth-rate, with the exception of last year, was the lowest recorded during the 10 years 1891-1900, and the general death-rate was 1·1 per 1,000 below the mean of that period. The zymotic and infant rates, however, were above the average. The latter rate was very high, and varied from 260 in North Ward, to 178 in South Ward. Improper and insufficient food, inadequate clothing, undue exposure of the delicate bodies of infants to the influence of our varying and more or less rigorous climate, and hereditary deficiencies are mainly the responsible causes contributing to this serious loss of infant life. The deaths from diarrhœa (38) alone represented a rate of 1·4 per 1,000; "dietary irregularities helped, as usual, to swell the mortality." Whooping cough gave rise to 15 deaths and measles 7 deaths. Scarlet fever, with 176 cases 6 deaths, spread over a wide area, but chiefly in North and West Wards, and of the total 78 cases (16 fatal) of typhoid fever 50 cases (9 fatal) occurred in these wards. Diphtheria and membranous croup accounted for 150 cases and 26 deaths. The incidence of this disease was also most marked in the wards mentioned, the South and East Wards being far less proportionately attacked. North and West Wards provided 66 per cent. of the total cases notified.

The Medical Officer of Health states that one of the chief causes of so much disease is defective sanitary surroundings in connection with the dwellings, such as unpaved streets, back passages, back yards, &c. The impossibility of isolating patients in the cottage houses, combined with promiscuous visiting, is another contributory cause. Bacteriological examinations in suspected cases of typhoid fever and diphtheria, and the distribution of anti-diphtheritic serum, have had markedly beneficial results.

Hospital Accommodation.—Eighty-five cases were removed to the Ladywell sanatorium belonging to the Salford Corporation, viz., scarlet fever 36, diphtheria 35, and typhoid fever 14.

Disinfection.—Articles of clothing, bedding, &c., are disinfected in the steam apparatus at the sanatorium; rooms fumigated with sulphur.

Water Supply obtained from the Manchester Corporation.

Sewerage, Scavenging, &c.—The effluent from the outfall works did not satisfy the Mersey and Irwell Joint Committee, and in June legal proceedings were instituted. The bacterial system is about to be adopted. A considerable number of house drains were submitted to the smoke test. Scavenging, in the hands of the Authority, is efficiently performed. Dr. Hosegood advocates the provision of a refuse destructor and the abolition of all tips.

Sanitary Inspection.—Systematic inspections of the various portions of the district have been made from time to time. Seven notices were served under the Housing of the Working Classes Act, and 4 houses were condemned; in one instance a Magistrate's Order had to be obtained for closure. The workshops, bakehouses, slaughter-houses, and cowsheds have been, as usual, periodically inspected, and little ground for complaint was found as to the manner in which they are

conducted. No grave defects were noticed in the sanitary condition of factories. The Inspector (Mr. Bleakley) gives details of a large amount of sanitary work accomplished, including the abatement of 778 nuisances which required the issue of 509 notices, and legal proceedings in 4 instances. One hundred and fifty-six smoke observations were taken.

Thornton.—(Area in acres, 2,996; Estimated Population, 3,166.)—*Medical Officer of Health*, F. S. Rhodes, M.R.C.S.; *Salary*, £20.

Per 1,000 of Population.	1901.		(9 months) 1900.
Birth-rate.....	34·1	...	28·3
Death-rate	11·0	...	15·6
Zymotic death-rate..... ..	0·94	...	2·87
Phthisis ,, ...	0·31	...	nil.
Respiratory ,, ...	1·57	...	2·05
Rate of deaths under 1 year to 1,000 births	92	...	217

The statistics presented by Dr. Rhodes compare very favourably with those of the preceding nine months. The general death-rate was reduced 4·6 per 1,000, and only 3 deaths were attributed to the principal zymotic diseases, viz., typhoid fever 1 and diarrhœa 2. The latter disease was prevalent in the Burn Naze district. The Medical Officer of Health reports that "this district offers every opportunity as a breeding ground for the poison of epidemic diarrhœa, on account of the polluted soils, refuse accumulations, &c." Measles became notifiable on the 11th of March, but only 3 cases were reported. A mild outbreak of scarlet fever occurred in October, chiefly at Trunnah, 14 cases being notified. Typhoid fever gave rise to 2 cases and diphtheria 1 case. Both these diseases were attributed to insanitary conditions. It is recommended that arrangements be made for bacteriological examinations of typhoid fever and diphtheria cases. Erysipelas was the cause of 3 cases.

Hospital Accommodation.—The joint hospital at Moss Side has recently been completed.

Disinfection.—No apparatus available.

Water Supply obtained principally from the Fylde Joint Board. Little Thornton district (Stanah) is still in want of an efficient supply; in the summer months the wells are dry, and pond water has to be relied upon.

Sewerage, Scavenging, &c.—The sewerage system is again described as bad; cesspools overflow into the adjoining dykes. Scavenging is not at all satisfactory, the property owners being responsible for the removal of house refuse, and the tip is in too close proximity to dwelling-houses.

Sanitary Inspection.—From the above it will be seen that sanitary matters in this district do not receive the attention they deserve. One house was condemned as unfit for human habitation. Slaughter-houses are described as satisfactory; dairies and cowsheds want more light, ventilation, and better drainage. The Inspector (Mr. Fenton) reports on 95 nuisances abated after the service of 30 notices.

Tottington.—(Area in acres, 2,543; Census Population, 6,118.)—*Medical Officer of Health*, A. H. Poole, L.R.C.P.; *Salary*, £40.

Per 1,000 of Population.	1901.	1900.	Mean of 2 years, 1899-1900.
Birth-rate	22·0	19·9	22·0
Death-rate	15·8	15·2	14·8
Zymotic death-rate	1·30	0·79	1·38
Phthisis ,,	0·98	1·26	0·85
Respiratory ,,	3·59	3·64	3·80
Rate of deaths under 1 year to 1,000 births	133	63	95

The birth-rate is identical with the mean of the two preceding years, but the death-rate and the proportion of deaths

of infants under 1 year to 1,000 births are increased. Measles, the cause of 3 deaths, was rather prevalent from April to November; in the latter month 2 schools were closed on account of the prevalence of this disease amongst the scholars. Typhoid fever contributed 2 deaths, and scarlet fever, diphtheria, and diarrhœa 1 death each. Only 19 notifications were received, viz., scarlet fever 12, diphtheria 4, typhoid fever 2, and erysipelas 1. Both the typhoid fever cases were due to defective sanitation. Medical practitioners have been asked to voluntarily notify cases of phthisis.

Hospital Accommodation.—This district is associated with Radcliffe, &c., for hospital purposes, but great delay has taken place in carrying out the joint scheme.

Disinfection.—No special apparatus. Fourteen houses and 2 schools were fumigated, either with formalin or sulphur.

Water Supply, obtained from the Bury, &c., Joint Board, "has been the subject of very general complaint, especially during the summer months, both on the ground of quantity and quality."

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and land filtration. Sewers have been constructed during the year in the Walshaw portion of the district, and the house drains are now being coupled up. Scavenging is not satisfactorily performed, nor can it be expected that the work will be well done as long as it is left in the hands of householders.

Sanitary Inspection.—Bakehouses and slaughter-houses are in fairly good condition, and although dairies and cow-sheds have improved, very much remains to be done in the direction of providing increased air space and ventilation in the shippons. Factories and workshops came under notice, and in a few instances better sanitary arrangements were

observed. The Inspector (Mr. Kenyon) secured the abatement of 55 nuisances after the service of 21 notices. Twelve smoke observations were taken.

Trawden.—(Area in acres, 6,815; Census Population, 2,641.) *Medical Officer of Health*, J. J. Ideson, L.S.A. (Lond).; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	21·9	26·9	31·4
Death-rate	12·8	15·2	18·3
Zymotic death-rate	nil.	0·38	1·71
Phthisis ,,	1·13	0·38	1·13
Respiratory ,,	2·65	3·50	4·36
Rate of deaths under 1 year to 1,000 births	137	173	169

The statistics are marked by decreases of 9·5 and 5·5 per 1,000 of the population in the birth and death rates respectively as compared with the mean of the 10 years 1891-1900, and both these rates are the lowest recorded during that period. Not a single death took place from any of the principal zymotic diseases, and only two cases of infectious disease were notified—scarlet fever 1, and typhoid fever 1.

Hospital Accommodation nil.

Disinfection.—No apparatus.

Water Supply.—Quality good, but supply inadequate during summer months.

Sewerage, Scavenging, &c.—In September the Chief Inspector of the Ribble Joint Committee reported that "the treatment at the outfall works continues satisfactory, but a comparatively large quantity of sewage still enters the streams in a crude condition, and requires coupling up to the main

sewers. Out of a total of 554 houses 199 remain unconnected." Scavenging, as performed by contract, gives satisfaction. The refuse is tipped into disused quarries.

Sanitary Inspection. — Bakehouses, slaughter-houses, dairies, cowsheds, and milkshops are all described as being in a good sanitary condition, and factories and workshops apparently comply with the requirements. Ten notices were served for the abatement of nuisances.

Turton.—(Area in acres, 17,335; Census Population, 12,355.)—*Medical Officer of Health*, James Robinson, M.D., L.S.Sc.; *Salary*, £60.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	22·2	19·8	21·7
Death-rate	12·4	13·5	13·7
Zymotic death-rate	0·88	1·54	0·99
Phthisis ,,	0·97	0·85	1·13
Respiratory ,,	1·94	3·09	3·08
Rate of deaths under 1 year to 1,000 births	72	140	130

The statistics presented by Dr. Robinson bear favourable comparison with those of the preceding year. An increase of 2·4 in the birth-rate is accompanied by a decrease of 1·1 per 1,000 in the death-rate. The zymotic and infant rates are reduced almost one-half, and the respiratory rate is much more satisfactory. Measles did not give rise to a single fatality, but owing to the prevalence of this disease amongst the scholars attending Hob Lane Board School it was closed for a period of one month from March 11th. Whooping cough, although rather prevalent, was the cause of only 1 death. Scarlet fever prevailed in epidemic form in the localities of Dimple, Egerton, Dunscar, Eagley, and Bradshaw, commencing in March and terminating at the end of October. Five deaths were registered out of the 126 cases notified

During October and November an epidemic of diphtheria existed in the Children's Home, Edgworth, the first cases being attributed to infection conveyed from Darwen by workmen employed at the Institution. Four deaths took place. Of the 8 cases of typhoid fever reported 4 occurred in the Children's Home, apparently due to contaminated water from a foul cistern. These outbreaks might well have formed the subject for a special report. Erysipelas contributed 2 cases.

Hospital Accommodation.—The arrangement made with the County Borough of Bolton to accommodate in their isolation hospital cases from this district has been of considerable service, 42 cases of scarlet fever being removed.

Disinfection.—No special apparatus. Sulphur fumigation of 124 houses took place.

Water Supply.—With the exception of a few outlying houses and farms, water is obtained from the Bolton Corporation.

Sewerage, Scavenging, &c.—The whole of the district appears to be properly sewered, but delay has taken place in connecting the houses in Edgworth and Harwood with the main sewers. Scavenging is performed satisfactorily, partly by the Authority and partly by contract.

Sanitary Inspection.—Systematic inspections of the whole district are made. Bakehouses and slaughter-houses were found in a satisfactory condition with respect to cleanliness. Improvements in the dairies and cowsheds are being slowly effected. Factories and workshops came under notice. During the year 26 privy middens were converted to the water-carriage system. Ninety-two nuisances were abated as the result of 77 notices. One smoke observation is reported upon.

Tyldesley-with-Shakerley.—(Area in acres, 2,490; Estimated Population, 15,250.)—*Medical Officer of Health*, B. Blakemore, M.R.C.S.; Salary, £60.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	34·1	34·1	36·0
Death-rate	18·5	18·5	18·7
Zymotic death-rate	3·08	2·60	3·31
Phthisis ,,	0·45	0·66	1·13
Respiratory ,,	4·19	4·40	4·30
Rate of deaths under 1 year to 1,000 births	201	173	170

The birth and death rates coincide exactly with those recorded for 1900, and show a slight reduction as compared with the mean of the past decade. The zymotic rate was above the average of the County urban districts and the infant rate rose considerably. The increase in the latter rate is due almost entirely to the deaths from diarrhœa, viz., 26 against 6 in the previous year. Whooping cough did not cause a single fatality, and only 2 deaths were ascribed to measles. In 1900 these diseases accounted for 15 and 7 deaths respectively. Typhoid fever gave rise to 72 cases 7 deaths, and was very prevalent during the last quarter, when 50 of the cases were notified. The outbreak was almost entirely confined to the north side of the town, and in particular to those streets surrounding the large open swampy ground known as the Common. Dr. Blakemore says "the constant recurrence of this disorder in our midst is principally due to the middenstead system and to the many infected privies in the township." He advises the Council to take the earliest opportunity of abolishing the present middens and substituting the water-carriage system. Scarlet fever accounted for 60 cases 5 deaths, diphtheria—including membranous croup—23 cases 7 deaths, erysipelas 11 cases, and puerperal fever 4 cases.

Hospital Accommodation is provided at the Leigh,

Atherton, and Tyldesley joint sanatorium at Astley. The cases removed to hospital were—typhoid fever 43, scarlet fever 34, and diphtheria 3.

Disinfection.—No apparatus except at the hospital. All the schools and 125 houses were fumigated.

Water Supply obtained from the Manchester Corporation waterworks.

Sewerage, Scavenging, &c.—The Mersey and Irwell Joint Committee have at times had occasion to complain of the unsatisfactory character of the effluent from the sewage works. The Authority undertake the scavenging.

Sanitary Inspection.—Nine back-to-back houses were made into "through" houses, and one was closed. Bake-houses said to be in good condition, excepting 2 which are underground. Slaughter-houses—with one or two exceptions—are well kept, and dairies and cowsheds "fair." Twenty-four privy middens were converted to the water-carriage system. The Inspector wrote 143 letters and served 49 notices for the abatement of 196 nuisances. In 3 instances legal proceedings followed. "Very few" smoke observations were taken.

Ulverston.—(Area in acres, 3,172; Census Population, 10,064.)
Medical Officer of Health, G. H. Patterson, M.R.C.S., D.P.H.; *Salary*, £90.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	28·3	25·8	27·7
Death-rate	15·6	17·8	17·1
Zymotic death-rate	1·09	1·19	0·91
Phthisis ,,	0·89	1·49	1·37
Respiratory ,,	2·58	2·79	3·20
Rate of deaths under 1 year to 1,000 births	129	96	124

As compared with last year the birth-rate gave an increase

of 2·5, and the death-rate a decrease 2·2 per 1,000 of the population. The zymotic, phthisis, and respiratory rates are more favourable, but the proportion of infant deaths to births rose from 96 to 129. Measles and whooping cough, which last year caused 6 and 3 deaths respectively, did not occasion a single fatality during the period under review. Diarrhœa was responsible for 5 deaths. Scarlet fever prevailed extensively in the early months of the year, and school closure had to be resorted to. Typhoid fever caused 5 cases 2 deaths, diphtheria 4 cases, erysipelas 11 cases, and puerperal fever 2 cases. Arrangements have been made for the voluntary notification of phthisis.

Hospital Accommodation.—Nine cases of scarlet fever were removed to the joint hospital at High Carley.

Disinfection.—No apparatus. Fifty-three houses were were fumigated.

Water Supply to the houses within the radius of the Council's mains has generally been satisfactory, although during the summer drought some complaints were received of the unpleasant taste of the water. Dr. Patterson advises better protection to some of the feeders of the reservoir. The hamlet of Rosside has now a good supply.

Sewerage, Scavenging, &c.—The sewage flows into settling tanks, and is then discharged into the sea. The Authority perform the scavenging in a fairly satisfactory manner.

Sanitary Inspection.—Special and systematic inspections of all parts of the district are made. Bakehouses are described as "good," and slaughter-houses "fair." Dairies and cow-sheds—subject to regulations—may be improved. Thirty-seven privy middens were converted to the water-carriage system. The Inspector (Mr. Whitlow) served 37 notices for the abatement of nuisances affecting 86 premises.

Upholland.—(Area in acres, 4,686; Census Population, 4,773.)—*Medical Officer of Health*, J. Lloyd Johnstone, M.R.C.S.; *Salary*, £40.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	36·6	30·4	36·8
Death-rate	18·0	20·0	18·6
Zymotic death-rate	3·56	2·43	1·56
Phthisis ,,	0·83	1·01	1·04
Respiratory ,,	2·93	3·85	4·61
Rate of deaths under 1 year to 1,000 births	165	146	120

The statistics for the period under review are marked by an increase of 6·2 per 1,000 of the population in the birth-rate and a decrease of 2·0 in the death-rate as compared with 1900. The zymotic and infant rates are less favourable. Measles became epidemic during November and December, and necessitated the closure of schools until the Christmas holidays. Three deaths were ascribed to this disease, 7 deaths to diarrhœa, and 1 death to whooping cough. Scarlet fever gave rise to 14 cases 1 death, typhoid fever 16 cases 1 death, diphtheria 8 cases 4 deaths, erysipelas 8 cases, and puerperal fever 1 case.

Hospital Accommodation.—Nil.

Disinfection.—No apparatus.

Water Supply, reported as good and continuous.

Sewerage, Scavenging, &c.—Sewage of the Upholland and Tontine districts is treated by precipitation and filtration, and that of Grimshaw Lane on bacteria beds. The Chief Inspector of the Ribble Joint Committee reports:—"the Tawd Bridge sewage scheme has now been completed, but the districts of Digmore and Platt Lane are still unprovided for.' Scavenging is performed "very fairly" by the Authority.

Sanitary Inspection.—Dr. Johnstone reports that "the district has been continuously under supervision throughout the year, and a large amount of insanitary property has been reported to the Council. Ditches, which serve the purpose of open drains, roofless and tumble-down ashpits, and defective privies, are the most important and most prevalent offences in this respect, and until these are remedied the district cannot be said to be in a thoroughly sanitary condition." Bakehouses, slaughter-houses, and lodging-houses are well kept, but dairies and cowsheds are not satisfactory. Although regulations are in force, a "difficulty is experienced in getting farmers to regularly limewash and properly ventilate their shippons." Forty-six notices were necessary to secure the abatement of 74 nuisances.

Urmston.—(Area in acres, 992; Estimated Population, 6,600.) *Medical Officer of Health*, G. E. Fryer, M.R.C.S.; *Salary*, £50.

Per 1,000 of Population.	1901.	1900.	Mean of 6 years, 1895-1900.
Birth-rate	21·2	25·3	23·5
Death-rate	13·4	11·3	11·3
Zymotic death-rate	1·51	1·60	1·89
Phthisis ,,	0·75	0·93	0·65
Respiratory ,,	2·27	1·20	1·93
Rate of deaths under 1 year to 1,000 births	200	84	105

The population of last year was over-estimated by 900. The birth-rate is below and the death-rate above the average of previous years. The proportion of deaths of infants under one year to 1,000 births is very high, and almost double the mean of the six years 1895-1900. Measles and whooping cough did not give rise to a single fatality, but 6 deaths (all of children under one year) were due to diarrhœa. Scarlet fever was the cause of 22 cases 1 death, typhoid fever 3 cases

1 death, diphtheria—together with membranous croup—12 cases 2 deaths, and erysipelas 5 cases. Bacteriological examination in suspected cases of typhoid fever and diphtheria has proved very useful.

Hospital Accommodation.—Five beds are reserved at the Ladywell sanatorium (Salford) for the use of this district, but only five patients were removed during the year, viz., scarlet fever 3, diphtheria 1, and typhoid fever 1.

Disinfection.—Hot air apparatus available. Rooms fumigated with formalin.

Water Supply obtained from the Manchester Corporation.

Sewerage, Scavenging, &c.—Sewage is treated at the Urmston and Flixton joint outfall works. Scavenging, as carried out by the Authority, gives satisfaction.

Sanitary Inspection.—Bakehouses and slaughter-houses are well conducted and in good structural condition. Dairies and cowsheds have been minutely inspected; many were found to be deficient in air space. Workshops are kept under supervision. The Inspector served 20 notices for the abatement of 58 nuisances.

Walton-le-Dale.—(Area in acres, 4,658; Census Population, 11,271.)—*Medical Officer of Health*, R. Trimble, M.D., D.P.H.; *Salary*, £50.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	24·3	28·3	30·8
Death-rate	11·4	20·0	18·9
Zymotic death-rate	1·86	4·09	2·48
Phthisis ,,	0·88	1·10	1·25
Respiratory ,,	1·68	3·06	3·51
Rate of deaths under 1 year to 1,000 births	105	210	182

The statistics presented by Dr. Trimble are marked by

reductions in the birth and death rates equal to 4·0 and 8·6 per 1,000 of the population respectively as compared with 1900, and both these rates are the lowest recorded during the last 10 years. The zymotic, phthisis, respiratory, and infant rates are also considerably reduced. Measles was not responsible for a single death, whooping cough gave rise to 3 deaths, and diarrhœa 8 deaths, against 13, 14, and 12 respectively in the previous year. Scarlet fever, with 91 cases, again had an extensive prevalence, but fortunately it was of a mild type, only 4 deaths resulting. Typhoid fever was the cause of 22 cases 4 deaths; 3 of the attacks were due to the use of impure water. The remaining notifications were diphtheria 10 (2 fatal) and erysipelas 3.

Hospital Accommodation.—A small hospital of 8 beds—usually reserved for small-pox cases—was used for the isolation of 8 cases, 6 scarlet fever and 2 typhoid fever. All were nursed and fed at an expenditure of £38 13s. 3d. The undertaking given to the County Council in 1895 to provide further hospital accommodation is about to be redeemed by the erection of a hospital with 12 beds.

Disinfection.—Hot air apparatus is used for disinfecting bedding, clothing, &c. Sixty-eight houses were fumigated.

Water Supply.—The majority of houses are supplied from the Council's mains. Of 33 samples taken from wells and other private sources only 1 was found fit for domestic use. In all the other cases notice to provide a proper supply was given, with the result that the Council's water has been taken in every instance.

Sewerage, Scavenging, &c.—In November the Chief Inspector of the Ribble Joint Committee reported that "the outfall works continue to produce results concerning which no complaints may be made." Four septic tanks have been provided for outlying parts of the district. Scavenging, in the hands of contractors, is not very satisfactory.

Sanitary Inspection.—In Dr. Trimble's opinion "there are three sanitary reforms which cry aloud for adoption," viz. (1) the paving of back yards, (2) the conversion of all privy middens to water-closets, and (3) the concreting of all ground on which new houses are erected. Bakehouses and slaughter-houses are kept clean and in good order. The drains of 4 farms did not give satisfaction and notices were served. The closet accommodation at some of the factories was remodelled. Details are given of the sanitary improvements carried out during the year.

Wardle.—(Area in acres, 3,192; Census Population, 4,427.) *Medical Officer of Health*, G. MacGill, L.R.C.P.E.; *Salary*, £40.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	18·7	18·5	20·7
Death-rate	14·0	13·1	14·6
Zymotic death-rate	0·67	1·21	1·26
Phthisis ,,	1·12	0·73	0·99
Respiratory ,,	4·29	2·19	3·02
Rate of deaths under 1 year to 1,000 births	96	210	134

The mortality statistics above recorded, which may on the whole be considered satisfactory, exclude 189 deaths occurring in the Dearnley workhouse of persons not belonging to the district. Not a single death was recorded from measles, diarrhœa, or whooping cough, but the latter disease was prevalent from March to June. One death took place from each of the following diseases—scarlet fever, typhoid fever, and diphtheria. The notifications amounted to 29, viz., scarlet fever 22, typhoid fever 1, diphtheria 1, and erysipelas 5. Referring to the deaths from phthisis, Dr. MacGill says:—"I am of opinion the County Council should take up the erection of sanatoria for consumptives in order that isolation could be carried out in the early stage."

Hospital Accommodation.—The joint hospital scheme is making slow progress.

Disinfection.—No apparatus.

Water Supply obtained from the Rochdale Corporation reservoirs. "Frequent complaints were received of the muddiness of the water."

Sewerage, Scavenging, &c.—The Mersey and Irwell Joint Committee have had occasion to complain of the unsatisfactory condition of the effluent from the Lower and Higher outfall works, and legal proceedings are threatened. The Authority carry out the scavenging; more attention might be given to the cleansing of the roads.

Sanitary Inspection.—There are no public bakehouses or lodging-houses in the district. Slaughter-houses are in good condition and well kept. Cowsheds comply with general sanitary requirements and the drainage of several has been much improved. Factories and workshops also gave satisfaction. Ten notices for the abatement of nuisances were issued.

Waterloo-with-Seaforth.—(Area in acres, 952; Census Population, 23,102.)—*Medical Officer of Health*, W. S. Limrick, L.R.C.P.E.; *Salary*, £100.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	26·4	23·0	26·2
Death-rate	12·1	12·2	13·2
Zymotic death-rate	1·25	1·04	1·72
Phthisis ,,	0·69	0·96	0·95
Respiratory ,,	1·90	2·40	2·48
Rate of deaths under 1 year to 1,000 births	121	125	140

The Census showed that the population of last year was

over-estimated by 1,898. The statistics for the period under review compare favourably with the mean of the 10 years 1891-1900, and may be considered satisfactory. The Waterloo portion of the district had a death-rate of 10·87 per 1,000, and the Seaforth division 13·11. Diarrhœa again proved the most fatal of the principal zymotic diseases; 19 deaths were recorded, against 15 and 31 in the 2 preceding years. Measles did not cause a single fatality, and to whooping cough was attributed 1 death. The number of notifications received (123) was the lowest during the last 9 years. Scarlet fever was responsible for 60 cases 1 death, typhoid fever 24 cases 3 deaths, diphtheria and membranous croup 24 cases 5 deaths, and erysipelas 15 cases. The voluntary notification of phthisis by medical practitioners is invited, and the Council offer to disinfect rooms of phthisical patients.

Hospital Accommodation is provided at the hospital at Linacre belonging to the Bootle Corporation. Only 15 patients were removed, viz., scarlet fever 7, typhoid fever 6, and diphtheria 2. The cost of maintenance of patients was £112 17s. 10d. and the annual contribution £384, making a total of hospital expenditure of £496 17s. 10d., or £33 2s. 6d. per case.

Disinfection.—The steam apparatus was used for disinfecting 2,103 articles, and 102 rooms were fumigated with sulphur.

Water Supply described as "good."

Sewerage, Scavenging, &c.—Sewage is discharged into the estuary of the River Mersey. The smoke test was applied to 239 drains. Scavenging is performed in a satisfactory manner, partly by the Authority and partly by contract.

Sanitary Inspection.—Systematic inspections were made of all parts of the district at various periods. Bakehouses—mostly situated underground—are fairly satisfactory. Dairies,

cowsheds, and milkshops have been regularly inspected, in all 219 visits being made; a special survey of all the cowsheds was carried out in July, owing to the new bye-laws coming into operation increasing the cubic space from 500 to 600 cubic feet per cow. Seventy-five samples of milk were submitted for bacteriological examination; of these 3 proved to be tubercular, and 68 contained the bacillus coli communis. A veterinary surgeon was called in to examine the cows giving the tuberculous milk. Sixty defective water-closets were replaced with new basins and traps, and 132 additional closets were repaired. The Inspector (Mr. Pratley) gives details of a large amount of sanitary work carried out in his department, including the abatement of 1,366 nuisances. These required the service of 594 notices, and the institution of legal proceedings in one instance. Eight smoke observations were taken.

Westhoughton.—(Area in acres, 5,560; Estimated Population, 14,441.)—*Medical Officer of Health*, F. Tyndall, L.R.C.P. (Lond.); *Salary*, £40.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate.....	32·5 ...	33·6 ...	36·6
Death-rate	16·1 ...	21·8 ...	18·4
Zymotic death-rate.....	2·56 ...	4·93 ...	2·65
Phthisis ,, ...	0·69 ...	0·35 ...	0·68
Respiratory ,, ...	4·15 ...	4·21 ...	4·46
Rate of deaths under 1 year to 1,000 births.....	170 ...	195 ...	166

There has been a steady decline in the birth-rate during the last few years, and the death-rate is 2·3 per 1,000 below the mean of the preceding decennial period. Measles was prevalent in the months of March and September, but only one death resulted. Diarrhœa, with 23 deaths, alone caused a rate of 1·5 per 1,000 of the population. Scarlet fever gave

rise to 124 cases 3 deaths; the disease became prevalent during the last four months of the year, and three schools were in consequence closed prior to the usual Christmas holidays. In spite of repeated cautions and the distributions of handbills, the spread of the infection was assisted by the carelessness of parents in regard to isolation. The epidemic of diphtheria reported upon in 1899 and 1900 continued in the spring of the present year, 103 cases being reported and 5 deaths took place. The remaining notifications were—typhoid fever 12 (5 fatal), erysipelas 19, continued fever 6, and puerperal fever 7.

Hospital Accommodation.—The new joint hospital scheme is making satisfactory progress.

Disinfection.—No apparatus. Eighty-three houses were fumigated.

Water Supply, of good quality, obtained from the Bolton Corporation.

Sewerage, *Scavenging*, *&c.*—The district is sewered by four sections of sewers, and the sewage receives chemical treatment and subsequent irrigation on three farms. During the hot weather the drains were flushed. Scavenging, as performed by contract, is still unsatisfactory, although better than last year.

Sanitary Inspection.—More house accommodation is required in the district. Certain old houses in Green Fold are, in the opinion of the Medical Officer of Health, unfit for human habitation. Bakehouses, slaughter-houses, factories, and workshops are described as in good condition. Dairies and cowsheds comply with regulations fairly well. The Inspector (Mr. Green) reports upon 384 nuisances abated, after the service of 150 notices.

Whitefield.—(Area in acres, 1,406; Census Population, 6,588.) *Medical Officer of Health*, A. J. Young, L.R.C.P.E.; *Salary*, £20 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 8 years, 1892 & 1893 1895-1900.
Birth-rate	23·3	25·5	28·8
Death-rate	19·4	14·4	18·1
Zymotic death-rate	4·55	1·36	2·64
Phthisis ,,	1·06	0·30	0·83
Respiratory ,,	3·18	2·88	3·74
Rate of deaths under 1 year to 1,000 births	220	130	162

As compared with last year the birth-rate shows a decrease of 2·2 and the death-rate an increase of 5·0 per 1,000 of the population. The zymotic and infant rates are exceptionally high. Diarrhœa was the cause of 9 deaths, measles 6 deaths, and whooping cough 2 deaths. Of the notifiable diseases diphtheria, together with membranous croup, had the greatest prevalence; 49 attacks took place, resulting in 11 deaths. To stay the spread of this disease school closure was resorted to. Scarlet fever gave rise to only 6 cases, typhoid fever 5 cases 2 deaths, and erysipelas 5 cases.

Hospital Accommodation.—Delay has taken place in carrying out the joint hospital scheme.

Disinfection.—No apparatus. Houses fumigated with sulphur.

Water Supply said to be unsatisfactory. The water is dirty owing to want of filtration.

Sewerage, Scavenging, &c.—Sewage is treated by precipitation and land filtration. On three occasions the Mersey and Irwell Joint Committee complained of the character of the effluent. During the year a sewer ventilating shaft was erected. The Authority undertake scavenging.

Sanitary Inspection.—Several houses in Half Acre and Pump Street are not in a sanitary condition, and many back-yards and streets are unpaved. The slaughter-houses (6) come under supervision, but for some unexplained reason bakehouses and dairies and cowsheds are not inspected. Thirty-eight notices were served for the abatement of nuisances, and 4 smoke observations taken.

Whitworth.—(Area in acres, 4,485; Census Population, 9,578.)—*Medical Officer of Health*, Alexander Welsh, M.D.; *Salary*, £40.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	20·8	24·9	22·9
Death-rate	17·2	19·7	18·2
Zymotic death-rate	0·41	1·87	1·45
Phthisis ,,	1·77	1·28	1·36
Respiratory ,,	3·96	4·74	4·74
Rate of deaths under 1 year to 1,000 births	150	173	167

The birth-rate, with one exception, is the lowest recorded during the last 10 years, and the death-rate is also below the average. The former rate varied from 25·1 in Shawforth Ward to 13·6 in Healey Ward, and the latter from 26·7 in Shawforth Ward to 12·1 in Facit Ward. The zymotic rate was very low, and was accounted for by 3 deaths from typhoid fever and 1 death from whooping cough. The infant rate was less than the average of previous years, and, in the opinion of Dr. Welsh, might be further reduced by the more careful feeding and management of young children. Notifications numbered 54, viz., scarlet fever 25, typhoid fever 7, and erysipelas 22. The inclusion of the latter disease among the notifiable diseases is stated to be "of doubtful utility in the interests of public health."

Hospital Accommodation. — The "temporary" cottage hospital was—as in 1900—not used during the year.

Disinfection.—No apparatus. Sulphur and formalin are used for the fumigation of infected premises.

Water Supply excellent, obtained from the Rochdale Corporation.

Sewerage, Scavenging, &c.—Four acres of land have been laid out for filtration purposes, and eight new bacterial filters constructed. Scavenging is performed in a satisfactory manner by the Council's employees.

Sanitary Inspection.—Bakehouses and slaughter-houses appear to be in good order, and dairies, cowsheds and milk-shops are described as satisfactory. Factories and workshops, lodging-houses, &c., come under observation. The Inspector (Mr. Biker) served 21 notices for the abatement of a variety of nuisances.

Widnes (Borough).—(Area in acres, 3,110; Census Population, 28,580.)—*Medical Officer of Health*, D. U. MacLennan, M.D.; *Salary*, £200.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	33·0	31·2	35·1
Death-rate	18·0	20·0	19·4
Zymotic death-rate	1·78	3·28	2·60
Phthisis ,,	0·41	0·46	0·78
Respiratory ,,	3·53	3·93	4·68
Rate of deaths under 1 year to 1,000 births	189	206	184

The Census showed that the population of 1900 was over-estimated by no less than 3,420, consequently the averages of the last few years have been considerably understated. The mortality statistics for the year under review compare favourably

with the previous year. There was a gratifying decrease in the number of deaths from measles, whooping cough, and diarrhœa, the totals being 3, 18, and 2 respectively, against 41, 20, and 21 in 1900. Scarlet fever also had a diminished prevalence, only 35 cases being notified against 158 last year and 211 in 1899. Typhoid fever, however, was responsible for 110 cases 17 deaths, as compared with 40 cases 5 deaths in the preceding year. Eighty-eight per cent. of the typhoid fever patients were removed to hospital. The majority of the cases occurred between August and November. A special Sub-Committee inspected the supposed centres of infection and gave strict injunctions to have the dwelling-houses as well as the back premises, passages, and privies thoroughly disinfected. Diphtheria and membranous croup gave rise to 38 cases 8 deaths, erysipelas 15 cases, puerperal fever 3 cases, and continued fever 1 case.

Hospital Accommodation.—Ninety-nine cases were removed to hospital, viz., typhoid fever 97, scarlet fever 1, and diphtheria 1. The Health Committee have wisely made provision for isolating small-pox cases should any occur; the foundations of two wooden pavilions have been laid and the buildings stored in sections, so that they can be erected in a few hours if necessary.

Disinfection.—Washington Lyons steam apparatus provided. Houses fumigated with formalin.

Water Supply.—Periodical analyses show the water to be of good quality.

Sewerage, Scavenging, &c.—Sewage is discharged into the estuary of the River Mersey. A considerable length of main sewer was reconstructed during the year. Flushing of sewers has again been actively carried out, the total amount of water used for the purpose amounting to 3,008,370 gallons. The Corporation employees carry out scavenging in a satisfactory manner.

Sanitary Inspection.—Three houses were condemned as unfit for human habitation, 2 have since been made habitable, and one was demolished. Bakehouses and slaughter-houses have, with few exceptions, complied with sanitary requirements. Dairies and cowsheds are in very fair condition. Special attention is given to factories and workshops, offensive trades, common lodging-houses, &c. Seventy-nine canal boats were examined. The Inspector (Mr. Lowe) reports on a large amount of sanitary work accomplished. To secure the abatement of 1,100 nuisances 640 notices were required.

Withington.—(Area in acres, 5,818; Estimated Population, excluding Workhouse, 34,000.)—*Medical Officer of Health*, T. C. Railton, M.D. (Lond.); *Salary*, £500.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	18·8	19·1	21·1
Death-rate	12·1	11·6	12·5
Zymotic death-rate	1·11	0·88	0·98
Phthisis ,,	0·76	1·08	0·95
Respiratory ,,	1·94	2·08	2·29
Rate of deaths under 1 year to 1,000 births	127	111	116

The birth-rate has steadily declined for some time, and this year's average is the lowest recorded during the last 25 years. The deaths (820) occurring in the Chorlton Union Workhouse, situate in this district, and belonging to the City of Manchester, are excluded. The general death-rate, zymotic and infant rates are well below the average of the County urban districts. The rates of the four sub-divisions are given below :—

	Birth-rate.	Death-rate.	Zymotic Rate.	Infantile Mortality.
Withington	16·2	13·5	1·1	175
Didsbury	18·7	9·3	0·7	89
Chorlton-cum-Hardy	22·2	11·7	1·0	78
Burnage	22·7	16·9	2·6	255

Diarrhœa gave rise to 24 deaths—19 occurring between July 2nd and October 6th, when the temperature of the soil at a depth of four feet reached 56 degrees F. or higher. Whooping cough was very prevalent during the year, and 5 deaths took place. Very few cases of measles came under notice, and only one death was recorded. Scarlet fever, with 245 cases 1 death, again had a wide spread ; all the townships suffered, but Burnage most severely in proportion to its population. On several occasions the disease was spread by patients going about in public while capable of spreading infection. Fifty-eight per cent. of the cases were isolated in hospital. Typhoid fever was responsible for 11 cases 1 death ; the blood serum was submitted to the bacteriological test in seven instances, in four a complete reaction was obtained, in two the reaction was incomplete, and in one it was absent. Diphtheria, with membranous croup, accounted for 31 cases 6 deaths ; in 10 instances swabs were sent to the bacteriological department at Owens College, with the result that diphtheria bacilli were discovered to be present in nine. Erysipelas contributed 7 cases, and puerperal fever 3.

Hospital Accommodation is at present available at Monsall (Manchester), and 162 cases were removed, viz., scarlet fever 144, diphtheria 13, and typhoid fever 5. The new hospital at Baguley is expected to be ready during the present year (1902), and the Council are endeavouring to find a site for a small-pox hospital.

Disinfection.—The steam apparatus belonging to the City of Manchester was used for the disinfection of 6,677 articles from this district. Houses fumigated numbered 222, including 20 after death from phthisis.

Water Supply.—Except in the outlying parts, which have to rely on wells, the water is obtained from Manchester Corporation.

Sewerage, Scavenging, &c.—A commencement was made in June with the new outfall works, and fair progress is being made. Scavenging is satisfactorily performed by the Authority.

Sanitary Inspection.—Bakehouses—excepting that several are in cellars—comply with sanitary requirements, and the slaughter-houses are fairly satisfactory. The work of placing the cowsheds in a satisfactory condition proceeds very slowly. There are six still under notice which do not comply with the regulations, but on the whole the shippons are maintained in a moderately clean condition. Eighty-three privies were converted to water-closets during the year, and nearly 3,000 square yards of back passages were drained, flagged, or paved. Nuisances abated amounted to 273, notices served 136, smoke observations 2.

Withnell.—(Area in acres, 3,705 ; Census Population, 3,349.) *Medical Officer of Health*, John Sinclair, M.B. ; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 8 years, 1893-1900.
Birth-rate.....	24·1 ...	23·7 ...	25·7
Death-rate	17·9 ...	11·7 ...	12·4
Zymotic death-rate.....	nil. ...	1·33 ...	1·26
Phthisis ,, ...	1·19 ...	1·06 ...	0·87
Respiratory ,, ...	2·68 ...	2·66 ...	2·47
Rate of deaths under 1 year to 1,000 births.....	123 ...	123 ...	133

As compared with last year, the birth and death rates show increases of 0·4 and 6·2 per 1,000 of the population respectively. Not a single death took place from any of the principal zymotic diseases, and the proportion of infant deaths to births was below the average. Twenty-three notifications were received, viz., scarlet fever 7, typhoid fever 1, diphtheria 7, and erysipelas 8.

Hospital Accommodation nil.

Disinfection.—"Movable" apparatus is available.

Water Supply obtained from the Liverpool Corporation.

Sewerage, Scavenging, &c.—The treatment of sewage is usually well conducted, the Chief Inspector of the Ribble Joint Committee reporting that the first unsatisfactory sample for three years was drawn on November 28th. The Council perform the scavenging.

Sanitary Inspection.—There are no bakehouses or lodging-houses. Slaughter-houses—visited regularly—are well kept. The new dairy and cowshed regulations came into force in September. The Inspector was instructed to examine each cowshed, and his report shows that many are in an unsatisfactory condition. Eleven notices and nine letters were required to secure the abatement of 19 nuisances. Two smoke observations were taken.

Worsley.—(Area in acres, 5,412; Census Population, 12,462.) *Medical Officer of Health*, R. Sayers, M.D.; *Salary*, £40 (no claim).

Per 1,000 of Population.	1901.	1900.	Mean of 6 years, 1895-1900.
Birth-rate	22·3	23·5	24·1
Death-rate	15·6	15·2	14·0
Zymotic death-rate	1·92	1·40	1·84
Phthisis ,,	0·80	1·63	0·91
Respiratory ,,	2·08	2·07	2·55
Rate of deaths under 1 year to 1,000 births	154	138	149

The population as ascertained at the Census was 1,020 less than the estimate made in 1900 on the basis of the increase during the 10 years 1881-91. With the exception of the phthisis and respiratory rates the mortality statistics for

the period under review are not quite so favourable as in the previous 6 years. The death-rate varied from 18·8 in Worsley Ward, 17·6 in North Ward, 15·2 in Boothstown Ward, to 12·5 in East Ward and 10·1 in Central Ward. Diarrhœa contributed 13 deaths, whooping cough 4 deaths, and measles 1 death. To scarlet fever of a mild type was ascribed 49 attacks, typhoid fever 13 cases 3 deaths, diphtheria and membranous croup 22 cases 3 deaths, puerperal fever 2 cases, and erysipelas 19 cases.

Hospital Accommodation.—Six beds are reserved for the use of this district at the Ladywell (Salford) sanatorium; 16 patients were removed, viz., scarlet fever 7, typhoid fever 4, and diphtheria 5.

Disinfection.—Steam apparatus at the sanatorium is available.

Water Supply described as "fair." A well, supplying certain cottages on Linnyshaw Moss, was found to be contaminated.

Sewerage, Scavenging, &c.—On two occasions—October and December—the Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent from the Barton Old Hall sewage farm. Scavenging is well attended to by contractors, but ashpits have to be emptied on unpaved surfaces. Dr. Sayers again refers to the necessity of a destructor.

Sanitary Inspection.—Many streets and back yards in North Ward are unpaved; the Medical Officer of Health has several times drawn the attention of the Council to this matter, but so far nothing has been done. Bakehouses are described as fair, and slaughterhouses good. Dairies and cowsheds are, as a rule, well kept; new regulations came into operation in March. Seventy-four canal boats were examined, and 15 infringements of the Act discovered. The Inspector (Mr. Wilcock) served 96 notices relating to 154 nuisances.

RURAL SANITARY DISTRICTS.

Barton-upon-Irwell.—(Area in acres, 6,872 ; Census Population, 8,065).—*Medical Officer of Health*, ALBERT E. BERRY, M.D. (Lond.) ; *Salary*, £60.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	23·8	22·7	26·6
Death-rate	13·8	13·6	13·9
Zymotic death-rate	1·98	2·50	1·69
Phthisis ,,	1·11	0·65	0·82
Respiratory ,,	1·85	2·28	2·83
Rate of deaths under 1 year to 1,000 births	98	138	130

The Census showed that the population of last year was over-estimated by 1,135. The birth and death rates are slightly below the mean of the past decade. The proportion of infant deaths to births is very satisfactory. The disparity between the death-rate of the northern township of Clifton (15·9), with its mining and factory population, and the southern district (12·6), mainly agricultural and residential, is becoming less marked. This is attributed to the street improvements made and the other means taken to remedy the pre-existing contamination of the soil. The whole district has been singularly free from measles, which did not cause a single death, and only 1 death was ascribed to whooping cough. Diarrhœa gave rise to 3 deaths. Scarlet fever, with 41 cases 2 deaths, had an increased prevalence: proceedings have been taken under Sec. 126 of "The Public Health Act, 1875," for exposing persons while infected with scarlet fever in a public thoroughfare, viz., at a funeral, where a large number of people were congregated. The magistrates imposed a fine of 10s. and costs. Diphtheria—49 cases 8 deaths—was unusually prevalent,

especially at Clifton where 35 of the attacks took place. At Barton Moss the 9 cases were connected with the transit of large quantities of offensive manure. The remaining notifications were, typhoid fever 15 (2 fatal), erysipelas 9, and puerperal fever 1. The Council are advised to make arrangements for bacteriological examinations in suspected cases of typhoid fever and diphtheria.

Hospital Accommodation.—Five beds are reserved at the Ladywell sanatorium (Salford) for the use of this district. The cases removed were, scarlet fever 4, typhoid fever 5, and diphtheria 5.

Disinfection.—Steam apparatus at the hospital is available. Eighty-two houses were fumigated either with sulphur or formaldehyde gas.

Water Supply.—The whole district, except a few scattered dwellings, is now supplied with town's water, partly by Manchester and partly by Bolton.

Sewerage, Scavenging, &c.—Sewage is treated on two farms —Clifton and Davyhulme. Application has been made to the Local Government Board to increase the cinder filtration area by 3,000 square yards. The usual flushing of sewers has been continued with good results, and two ventilating shafts have been erected. Scavenging at Clifton—performed by contract —gives satisfaction, but at Flixton an improvement is needed. The Council might with advantage undertake the whole of this work.

Sanitary Inspection.—Bakehouses and slaughter-houses are in good structural condition. Some of the old cowsheds do not conform to the requirements as to air space, but no action has been taken during the year pending an appeal in a neighbouring district. Factories and workshops are kept under observation. The Inspector (Mr. Bland) procured the removal of 107 nuisances after the service of 101 notices.

Seven smoke observations were taken, and in one instance legal proceedings followed.

Blackburn.—(Area in acres, 20,590; Census Population, 9,828.) *Medical Officer of Health,* W. R. Pollard, L.R.C.P.E.; *Salary,* £40.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	22·0	29·5	28·8
Death-rate	18·8	19·4	17·2
Zymotic death-rate	1·72	1·94	1·37
Phthisis ,,	0·61	0·75	0·87
Respiratory ,,	3·66	3·45	3·60
Rate of deaths under 1 year to 1,000 births	165	153	148

By the extension of the County Borough of Blackburn, on the 9th November, portions of the townships of Livesey and Witton—representing 440 acres and a population of 1,590—were taken from this district. The birth-rate is the lowest recorded during the past 10 years, but the death-rate, with the exception of 1891 and 1900, is the highest. The zymotic and infant rates are above the average. The birth-rate varied from 30·2 in Tockholes to 8·4 in Witton, and the death-rate from 39·1 in Ramsgreave, 28·1 in Salesbury, 27·4 in Osbaldeston to 11·7 in Wilpshire, 9·0 in Eccleshill, and 8·4 Witton. Diarrhœa caused 4 deaths—three in Livesey—and measles and whooping cough 1 death each. Scarlet fever gave rise to 36 cases 2 deaths, and typhoid fever 12 cases 3 deaths. Diphtheria was rather prevalent from March to July, especially in Billington, where 24 cases 5 deaths occurred out of a total for the whole district of 39 cases 6 deaths. Schools were closed at Balderstone and Langho on account of the prevalence of sore throats amongst the scholars. Erysipelas was responsible for 6 cases.

Hospital Accommodation nil, but at times cases are sent by arrangement to the Blackburn Borough hospital. Five cases of typhoid fever were removed during the year.

Disinfection.—No proper apparatus.

Water Supply.—The water supplied to Billington was found to be unfit for domestic use, and Blackburn water was substituted. The supply to Clayton-le-Dale has also been improved.

Sewerage, Scavenging, &c.—Four outfall works are in operation, viz., Mellor Brook, Wilpshire, Pleasington, and Eccleshill. Billington and Langho are still unprovided for. Scavenging—left in the hands of owners and householders—is not satisfactory.

Sanitary Inspection.—There are no bakehouses, lodging-houses, or private slaughter-houses; cattle being generally killed on the farmsteads. Dairies and cowsheds are said to be in better condition than formerly. The factories and workshops comply with sanitary requirements. The Inspector served 16 notices for the abatement of nuisances.

Burnley.—(Area in acres, 41,097; Census Population, 16,589.) *Medical Officer of Health*, Thomas Dean, M.D.; *Salary*, £80.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	22·4	22·2	25·1
Death-rate	12·7	11·7	14·9
Zymotic death-rate	1·08	0·81	1·56
Phthisis ,,	0·72	0·59	1·00
Respiratory ,,	2·17	3·18	3·34
Rate of deaths under 1 year to 1,000 births	131	97	124

The Census showed that the population of last year was

over-estimated by nearly 2,000. The mortality statistics presented by Dr. Dean are again satisfactory, and, with the exception of the infantile mortality, compare favourably with the mean of the ten years 1891-1900. Foulridge, Cliviger, West Ward, and Higham had the lowest death-rates, whilst Read, Worsthorne, and Hapton had the highest. Measles was very prevalent in Huncoat, Hapton, Clowbridge, and Mereclough, but fortunately not of a severe type, only 4 deaths being recorded. Three schools were closed in consequence of this disease, and five were fumigated. Whooping cough was responsible for 3 deaths and diarrhœa 5 deaths. Scarlet fever gave rise to 70 cases 2 deaths, the townships most affected being Briercliffe (27 cases), Read (22 cases), and Altham (10 cases). Typhoid fever was the cause of 5 cases, diphtheria and membranous croup 18 cases 4 deaths, and erysipelas 8 cases.

Hospital Accommodation.—Only 9 cases were removed to the joint hospital—scarlet fever 5, diphtheria 3, and typhoid fever 1.

Disinfection.—No apparatus. "When necessary" infected bedding, &c., is stoved at Burnley.

Water Supply.—The supply to Harle Syke has been improved, and Cliviger and Goldshaw are under consideration. The supplies of the following townships are not altogether satisfactory:—Simonstone, Reedley Hallows, Roughlee, Old Laund Booth, and Hapton.

Sewerage Scavenging, &c.—The Surveyor (Mr. Edmondson) reports that Altham, Read, Simonstone, Reedley, Briercliffe, and Hapton are wholly or partly sewered, and that plans are in preparation for Worsthorne and Brownside, Cliviger, Lane Bottom (Briercliffe), Old Laund Booth, and Higham. Application has been made for sanction to borrow money for the sewerage of Huncoat. Scavenging in Hapton, Huncoat, Worsthorne, and Cliviger has, since April, been performed by

the Council's men, and a decided improvement has been noticed. The townships of Altham, Blacko, Briercliffe, Brunshaw, Foulridge, Habergham Eaves, and Read are scavenged by contract, and the work has been well performed.

Sanitary Inspection.—Slaughter-houses have been regularly visited; one unlicensed and unsuitable building was closed. Dairies and cowsheds received 178 inspections; the premises, on the whole, are kept fairly clean, but 20 notices were required for improvements in ventilation and lighting. Canal boats were examined at the Foulridge, Hapton, and Huncoat wharves, but no serious defects were discovered. During the year 19 privies were converted to water-closets. The Inspectors (Messrs. Edmondson and Hewes) report on 797 nuisances dealt with, necessitating the service of 513 notices.

Bury.—(Area in acres, 12,014; Census Population, 8,088.) *Medical Officer of Health*, W. H. Barr, L.R.C.P.E.; *Salary*, £95.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	18·9	18·8	23·3
Death-rate	11·8	13·1	15·1
Zymotic death-rate	1·60	0·89	1·29
Phthisis ,,	0·49	0·56	0·70
Respiratory ,,	2·34	2·80	4·06
Rate of deaths under 1 year to 1,000 births	143	119	122

The birth-rate shows a slight diminution as compared with the previous decade, and the death-rate is the lowest recorded since 1891. The zymotic rate increased somewhat in consequence of measles, which caused 7 deaths against 1 last year. The infantile mortality also exceeded the average; the Medical Officer of Health says this great loss of infant life might be reduced by greater care on the part of parents in

habits of cleanliness, and in the method of feeding. Diarrhœa gave rise to 3 deaths, and whooping cough, scarlet fever, and typhoid fever 1 death each. Thirty-three notifications were received, viz., diphtheria 21, scarlet fever 9, typhoid fever 2, and erysipelas 1. An outbreak of diphtheria occurred at the end of the year at Unsworth amongst scholars attending a school in an adjoining district. The cases were of a comparatively mild type, as evidenced from the fact that no deaths resulted. Antitoxin was largely used, and proved of great value.

Hospital Accommodation.—Delay has taken place in carrying out the joint hospital scheme.

Disinfection.—No apparatus. Thirty-six rooms were fumigated with sulphur.

Water Supply.—Some parts of the district during the summer months suffered from scarcity of supply, and in many instances the quality was very bad.

Sewerage, Scavenging, &c.—The outfall works at Prestolee and Unsworth are said to be working satisfactorily. In July the Mersey and Irwell Joint Committee complained of the unsatisfactory character of the effluent from the Hollins district. Scavenging is undertaken by contract.

Sanitary Inspection.—There are no bakehouses or common lodging-houses; slaughter-houses appear to be in fairly good condition. The farms were all visited, and in most instances found clean, but the drainage and methods of ventilation are of an extremely primitive nature. Improvements have taken place in the sanitary arrangements of factories and workshops. The Inspector (Mr. Hurst) served 37 notices, secured the abatement of 210 nuisances, took 19 smoke observations, &c. Forty-seven canal boats have been inspected and, with one exception, found to be in a satisfactory condition.

Chorley.—(Area in acres, 39,988; Census Population, 19,310.) —*Medical Officer of Health,* J. A. Harris, M.D. (Lond.); *Salary,* £150.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	28·0	29·4	30·2
Death-rate	13·1	16·1	16·3
Zymotic death-rate	1·24	1·29	1·22
Phthisis ,,	0·72	0·86	0·88
Respiratory ,,	2·38	2·86	3·20
Rate of deaths under 1 year to 1,000 births	101	123	134

The population of last year was under-estimated by 810. The mortality statistics for the year under review are of a satisfactory character. The birth-rate, death-rate, and the proportion of infant deaths to births are the lowest recorded during the 10 years 1891-1900. The townships of Wheelton, Hoghton, Heskin, and Whittle-le-Woods show the most marked decrease in the mortality, whilst Coppull and Clayton-le-Woods show slight increases. The prevalence of measles necessitated school closure in Anderton, but no death resulted from this disease. Diarrhœa was responsible for 4 fatalities. The notifications received amounted to 177, against 97 last year, and 172 in 1899; one-fourth of the total cases occurred in Coppull, and Whittle-le-Woods and Brindle contributed 29 and 19 cases respectively. Scarlet fever was the cause of 76 cases 8 deaths; in Brindle a school was closed in consequence of the disease amongst the scholars attending. To diphtheria and membranous croup were attributed 48 cases 9 deaths. At one house in Heath Charnock, where several cases of diphtheria occurred, the water supply was found to be heavily contaminated with sewage, and repeated analyses indicated that it was totally unfit for domestic use; the well from which the water was obtained was closed by magistrate's order. Typhoid fever accounted for 15 cases 2 deaths, erysipelas

34 cases, and puerperal fever 4 cases.

Hospital Accommodation.—The joint hospital at Heath Charnock was opened on the 27th of April. Only eight patients were removed from this district, viz., scarlet fever 7, and typhoid fever 1.

Disinfection.—No apparatus, and no systematic disinfection of infected clothing, bedding, &c.

Water Supply.—The scheme for supplying Whittle-le-Woods, Clayton-le-Woods, Wheelton, and Heapey from Thirlmere (Manchester Corporation) is being carried out. The townships of Euxton, Eccleston, Bretherton, Mawdesley, Ulnes Walton, Heskin, Welsh Whittle, and Charnock Richard are not satisfactorily supplied.

Sewerage, Scavenging, &c.—Dr. Harris reports that "the sewage works at Clayton-le-Moors, Whittle-le-Woods, Wheelton, and Heapey have generally yielded satisfactory results." The outfall works at Coppull have been improved, and action is being taken with regard to the treatment of sewage from Heath Charnock, Eccleston, Mawdesley, Bretherton, &c. Scavenging, which is left in the hands of householders, does not give satisfaction. The Medical Officer of Health urges the Council to undertake this work.

Sanitary Inspection.—Bakehouses are described as "good," and slaughter-houses "moderate." Dairies, cowsheds, and milkshops, "inspected occasionally," are not subject to regulations. It is to be regretted that in so large a district proper supervision is not exercised over such places. The Inspector served 168 notices for the abatement of nuisances, and almost all were complied with. Legal proceedings were successfully instituted against a property owner for having built and allowed to be occupied four houses without proper drains and without a sufficient water supply.

Clitheroe (Lancashire portion).—(Area in acres, 33,459; Census Population, 6,726.)—*Medical Officer of Health*, W. P. Counsellor, M.D.; *Salary*, £50.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	23·3	21·2	23·0
Death-rate	16·2	16·7	15·7
Zymotic death-rate	1·33	2·25	0·98
Phthisis ,,	0·74	0·98	0·89
Respiratory ,,	2·23	3·23	3·23
Rate of deaths under 1 year to 1,000 births	108	178	106

The population of this district has decreased 362 during the intercensal period. The birth-rate shows an increase of 2·1, and the death-rate a decrease of 0·5 per 1,000 of the population as compared with last year. The zymotic rate is reduced 0·92, and the infantile mortality is much more favourable. Diarrhœa and whooping cough each caused 1 death. Scarlet fever gave rise to 43 cases 4 deaths; the greatest prevalence was in Sabden, where 29 cases 2 deaths occurred. In November the school in this township was closed for cleansing and disinfection. Diphtheria and membranous croup gave rise to 13 cases 2 deaths; a school at Whalley was closed in October in consequence of the prevalence of the former disease. The remaining notifications were typhoid fever and erysipelas (1 each).

Hospital Accommodation nil.

Disinfection.—No apparatus.

Water Supply.—The scheme for supplying Chatburn has been completed, and at Sabden and Hurst Green an improved supply has been obtained. Chipping and Wiswell are still dependent on well water, which not infrequently fails in the summer months.

Sewerage, Scavenging, &c.—Outfall works are in operation at Barrow, Chatburn, Sabden, and Whalley. Extension of sewers has taken place, and a ventilating shaft has been substituted for open manholes in Whalley. Scavenging in Chatburn is undertaken by contract, but in the remaining townships the householders are responsible.

Sanitary Inspection.—Slaughter-houses (13) appear to be in good condition, and dairies and cowsheds (29) are clean and well kept. The conversion of privy middens into waste water-closets is steadily continued, 16 having been re-constructed during the year. Forty-four notices for the abatement of nuisances and 12 for structural alterations have been complied with.

Fylde.—(Area in acres, 40,114; Census Population, 11,220.) *Medical Officer of Health*, E. G. B. Starkie, M.B.; *Salary*, £50.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	25·8	26·2	28·2
Death-rate	14·8	15·6	16·4
Zymotic death-rate	1·33	1·11	1·50
Phthisis ,,	0·89	0·97	1·08
Respiratory ,,	1·42	1·77	2·60
Rate of deaths under 1 year to 1,000 births	113	122	127

The birth and death rates are both reduced as compared with last year and with the mean of the 10 years 1891-1900, and the proportion of infant deaths to births is also more favourable. Diarrhœa was the cause of 6 deaths, and whooping cough 2 deaths. Scarlet fever gave rise to 44 cases and 4 terminated fatally; no less than 36 of the attacks took place at Marton. The outbreak in this township made its appearance in July and spread rapidly. Carelessness had a great deal to do with the spread of the infection, and in one instance

legal proceedings had to be instituted on this ground. Two schools were closed. Typhoid fever contributed 9 cases 3 deaths; one case at Carleton was attributed to defective house drains, and one at Bispham to the offensive condition of a dyke close to the house in which the case occurred. Diphtheria caused 5 cases 1 death, and erysipelas 5 cases.

Hospital Accommodation.—The joint hospital at Moss Side is almost ready for the reception of patients. A pavilion has been erected at Elswick by the Joint Small-pox Hospital Committee.

Disinfection.—No apparatus. Forty-three houses were fumigated after infectious disease.

Water Supply.—The Fylde Water Board supply the greater part of the district, but some of the outlying parishes have to rely on wells.

Sewerage, Scavenging, &c.—The sewerage scheme for Bispham and Carleton has not yet received the sanction of the Local Government Board. Improvements have been made in the sewerage of Wesham and Warton; Wrea Green also requires attention. Scavenging is undertaken by contract at Bispham and Wesham, but in the other townships no attention is given to this matter.

Sanitary Inspection.—Bakehouses and slaughter-houses are described as "clean," and dairies and cowsheds "generally satisfactory." Some of the old shippons are ill-ventilated. Six privy middens were converted to water-closets. There are many dwellings in this district unfit for human habitation, and require more attention on the part of the Authority. The Inspector (Mr. Jolly) secured the abatement of 121 nuisances by the service of 96 notices, and the institution of legal proceedings in 2 instances.

Garstang.—(Area in acres, 57,380; Census Population, 10,437.)—*Medical Officer of Health.*, THOMAS FISHER, M.R.C.S.; *Salary*, £70.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	23·7	21·1	23·5
Death-rate	11·6	14·1	14·2
Zymotic death-rate	0·37	0·78	0·78
Phthisis ,,	0·57	0·52	0·67
Respiratory ,,	1·82	2·43	2·93
Rate of deaths under 1 year to 1,000 births	72	78	101

The Census showed that the estimated population of last year was over-stated by 1,063. Dr. Fisher draws attention to the decrease in the number of inhabitants, and suggests certain steps—including the erection of artisan dwellings—which, in his opinion, would tend to prevent this undesirable exit from country districts. The birth-rate is slightly above the average, but the death-rate is the lowest recorded during the past 10 years. The latter rate varied from 24·64 in Winmarleigh, 21·27 in Myerscough, 18·56 in Garstang, 16·12 in Cleveley, 15·77 in Catterall, to 7·44 in Bleasdale, 5·58 in Stalmine-with-Staynall, 3·36 in Nateby, 1·93 in Upper Rawcliffe-with-Tarnacre, and nil in Holleth. Scarlet fever, which gave rise to 40 cases 1 death, was especially present in Pilling, Barnacre-with-Bonds, and Inskip, and schools were closed in each of these townships. The disease occurred at two of the district post-offices, and Dr. Fisher believes that one of the offices became the centre of infection. Diphtheria and membranous croup contributed 5 cases 1 death; 4 of the cases occurred in Pilling, which township appears to be predisposed to these diseases. Typhoid fever was responsible for 8 cases, erysipelas 4 cases, and diarrhœa 2 deaths. The Council invite the medical practitioners to voluntarily notify cases of phthisis, and arrangements have also been made for

bacteriological examinations in doubtful cases of this disease, as well as typhoid fever and diphtheria.

Hospital Accommodation.—It is to be regretted that the provision of hospital accommodation for ordinary infectious diseases has not advanced beyond the "consideration" stage. A pavilion has been erected at Elswick by the Joint Small-pox Hospital Committee.

Disinfection.—No apparatus. Forty houses and 3 schools were fumigated.

Water Supply.—Except in the districts supplied by the Fylde Water Board many complaints have been made with regard to the quality and quantity of the water available. Nateby, Pilling, and Winmarleigh are without water, and it is suggested that a scheme, now under consideration, for supplying these districts, together with the urban district of Preesall-with-Hackinsall, and the township of Cockerham, in the Lancaster rural district, might, with advantage, be adopted.

Sewerage, Scavenging, &c.—The sewage works at Barnacre continue to work satisfactorily. New sewers have been laid in Catterall, Claughton, and Stalmine, but many townships are not satisfactory in this respect. Scavenging is carried out by contract in the townships of Garstang and Calder Vale only.

Sanitary Inspection.—Four houses were condemned as unfit for human habitation and closed. Bakehouses and slaughter-houses appear to be clean and well kept. Dairies and cowsheds—not subject to regulations—are described as "variable." The Council have, for several years, been urged to adopt dairy, &c., regulations. The Inspector (Mr. Cook) secured the abatement of 126 nuisances, inspected 41 canal boats, &c.

Lancaster.—(Area in acres, 54,503; Census Population, 8,837.)—*Medical Officer of Health*, G. R. Parker, L.R.C.P. (Lond.); *Salary*, £50.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	21·3	30·1	28·3
Death-rate	14·1	18·5	15·3
Zymotic death-rate	1·47	1·95	1·39
Phthisis ,,	0·79	1·06	1·21
Respiratory ,,	1·69	3·26	2·49
Rate of deaths under 1 year to 1,000 births	116	161	123

The birth-rate is the lowest recorded during the past 10 years, and the death-rate is 1·2 per 1,000 below the average of that period, and 4·4 lower than the rate of 1900. The zymotic, phthisis, respiratory, and infant rates bear favourable comparison with previous years. The death-rates obtained in the sub-divisions were as follows:—Warton 16·10, Ellel 12·16, Heaton 12·10, and Lancaster 1·94. Whooping cough gave rise to 4 deaths, and diarrhœa 3 deaths. Only 25 notifications of infectious disease were received against 360 in 1900, but this latter figure included 249 cases of measles; this disease has, during the year, ceased to be notifiable. Scarlet fever was the cause of 6 cases, typhoid fever 7 cases 4 deaths, diphtheria 10 cases 1 death, continued fever 1 case 1 death, and puerperal fever 1 case.

Hospital Accommodation.—An arrangement has been made with the Lancaster Corporation for the admission of cases from this district into the borough sanatorium. Three cases of typhoid fever were removed.

Disinfection.—Occasionally infected articles are disinfected in the Lancaster (Borough) steam apparatus. Dr. Parker advocates the provision of portable steam appliances.

Water Supply.—The Medical Officer of Health reports

that there is no public supply to Heaton, Silverdale, Priest Hutton, Yealand Redmayne, Yealand Conyers, Cockerham, and Thurnham. The two latter places are at present the subject of consideration, and it is hoped that something will be done to remedy the existing disgraceful conditions which have formed the subject of several special reports. The supply to the village of Galgate is very bad, but pipes are now being laid to obtain water from the Thirlmere aqueduct belonging to the Manchester Corporation.

Sewerage, Scavenging, &c.—"At the present time there are seven sewerage systems under the control of the Authority, viz., Bolton, Galgate, Warton, Priest Hutton, Overton, Middleton, and Glasson Dock. All these are in an insanitary condition, and are causing nuisances which should, without delay, be abated." The relaying of the Warton and Galgate sewers is receiving attention. Scavenging is carried out by contract in the larger villages in a "fairly satisfactory manner." Dr. Parker calls attention to the fact that new streets are being levelled up with ashes and other house refuse.

Sanitary Inspection.—The districts specially inspected during the year were—Galgate, Warton, Bolton, Glasson Dock, Thurnham, Cockerham, the Yealands, and Priest Hutton. Bakehouses are described as good, and slaughter-houses moderate. The only common lodging-houses in the district—at Warton—is well conducted. "The Dairies, Cow-sheds, and Milkshops Order is still a dead letter. . . . No attempt has been made to ensure the wholesomeness and cleanliness of the milk or the good health of the cattle. . . Regulations have been made by this Authority, but they are of such a character and application as to be totally insufficient to meet requirements." Factories and workshops were inspected, and 16 canal boats underwent examination. The Inspector served 54 notices for the abatement of 65 nuisances. In one instance legal proceedings were required.

Leigh.—(Area in acres, 11,574; Census Population, 8,410.) *Medical Officer of Health*, C. Challinor, L.R.C.P. (Lond.), D.P.H.; *Salary*, £100.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	32·4	31·0	33·4
Death-rate	17·0	17·2	17·7
Zymotic death-rate.....	2·02	1·74	2·13
Phthisis ,, ...	0·71	0·81	0·84
Respiratory ,, ...	3·80	4·06	3·48
Rate of deaths under 1 year to 1,000 births.....	135	131	149

The statistics presented by Dr. Challinor vary but little from those of the preceding year. With the exception of the respiratory rate all the averages are below the mean of the 10 years 1891-1900. The township death-rates were:—Kenyon 9·11, Lowton 16·19, Astley 16·29, and Culcheth 20·05. Measles—the cause of 4 deaths—was prevalent in Lowton in January, Newchurch in May, and Glazebury in September; in each district school closure was resorted to. Only 36 notifications were received, 28 occurring in Astley. Scarlet fever contributed 17 cases, typhoid fever 6, diphtheria and membranous croup 9 (4 fatal), erysipelas 3, and puerperal fever 1 case. Diarrhœa was the cause of 9 deaths.

Hospital Accommodation.—Sixteen cases were sent to the joint hospital at Astley, viz., scarlet fever 11, and typhoid fever 5.

Disinfection.—No apparatus. Ten houses fumigated with sulphur.

Water Supply obtained chiefly from Manchester and Liverpool. Outlying districts supplied from wells.

Sewerage, Scavenging, &c.—The new sewer at Astley is now completed and 60 houses have been connected; 200 more

are ready for connecting and the work is being proceeded with. The sewage will be treated at the Tyldesley outfall works. Scavenging is carried out by arrangement between tenants and farmers.

Sanitary Inspection.—Legal proceedings have been instituted regarding insanitary property at Lowton. Bakehouses, common lodging-houses, factories, and workshops receive regular inspection. Five notices were required to remedy defects in dairies and cowsheds. The Inspector examined 193 canal boats, and infringements of the Act necessitated the services of 17 notices. He also served 306 notices for the abatement of nuisances.

Limehurst.—(Area in acres, 4,772; Census Population, 10,338.)—*Medical Officer of Health*, T. Cooke, M.R.C.S.; *Salary*, £40.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	26·6	33·0	31·6
Death-rate	15·9	22·2	18·1
Zymotic death-rate	1·93	2·65	1·74
Phthisis ,,	1·35	1·38	1·32
Respiratory ,,	2·61	4·24	3·64
Rate of deaths under 1 year to 1,000 births	145	183	147

The statistics are marked by reductions in the birth and death rates of 6·4 and 6·3 per 1,000 of the population respectively as compared with last year. The birth-rate is the lowest recorded during the 10 years 1891-1900, and only on two occasions during that period has the death-rate been more favourable. The latter rate varied from 20·58 in the September quarter to 10·83 in the June quarter. Diarrhœa gave rise to 11 deaths, and whooping cough and measles each caused 1 death. Scarlet fever had an increased prevalence with 91 cases 5 deaths, against 79 cases 1 death last year, and 16 cases

5 deaths in 1899. Waterloo was the township most attacked. Typhoid fever contributed 4 cases 2 deaths, diphtheria and membranous croup 2 cases, and puerperal fever 1 case.

Hospital Accommodation is said to be available at Ashton-under-Lyne, but during the last three years not a single case has been removed.

Disinfection.—No apparatus.

Water Supply obtained from the Ashton, &c., waterworks.

Sewerage, Scavenging, &c.—The Bardsley and Waterloo outfall works were not quite completed at the end of the year. A Local Government Board inquiry was held respecting a sewerage scheme for Cross Bank. Scavenging is said to be satisfactorily performed.

Sanitary Inspection.—Insanitary property in Lees Square and Keb Lane was reported upon; plans were prepared showing the improvements required, but no further action has been taken. Bakehouses, slaughter-houses, dairies, cowsheds, factories, and workshops are all periodically inspected. The nuisances discovered, except 4, were remedied.

Lunesdale.—(Area in acres, 76,267; Census Population, 6,948.)—*Medical Officer of Health*, Douglas J. M. Bone, M.B.; *Salary*, £20.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	23·3	24·2	22·8
Death-rate	15·2	13·0	13·5
Zymotic death-rate	0·71	0·95	0·85
Phthisis ,,	1·00	0·68	0·96
Respiratory ,,	1·87	0·68	1·80
Rate of deaths under 1 year to 1,000 births	111	101	99

The birth-rate shows a fractional reduction as compared

with last year, but the death-rate is 2·2 per 1,000 higher. The phthisis, respiratory, and infant rates are also in excess of those of the previous year. The zymotic rate (0·71) was due to 3 deaths from diphtheria and 2 from whooping cough. Measles—notifiable in this district—gave rise to 22 cases, diphtheria 15 cases, scarlet fever 11 cases, and erysipelas 1 case. In the early part of the year an outbreak of diphtheria occurred amongst the scholars attending Over Kellett school which was attributed to the insanitary condition of the closets.

Hospital Accommodation.—Nil. Dr. Bone recommends the Council to convert some cottages into a small-pox hospital.

Disinfection.—No apparatus.

Water Supply.—Whittington and Claughton are much in need of good supplies. The latter place has to rely on a beck which is liable to pollution. A special report has been prepared on the supply to the village of Arkholme; water is obtained from various pumps and 3 stand pipes—the latter are fed by a spring which rarely fails. The stand pipe at the south of the village is not used owing to corrosion of the pipes imparting a disagreeable taste to the water, and the River Lune has to be relied upon—a somewhat dangerous source.

Sewerage, Scavenging, &c.—The sewerage scheme for the east end of Caton has been delayed. Scavenging receives attention at Halton, but the other townships are unsatisfactory in this respect.

Sanitary Inspection.—Very little information is given as to the sanitary work carried out. Dairies and cowsheds apparently are not inspected. Slaughter-houses, workshops, and canal boats appear satisfactory.

Preston.—(Area in acres, 52,929; Census Population, excluding Public Institutions, 15,997.)—*Medical Officer of Health,* Charles J. Trimble, L.R.C.P.E., D.P.H.; *Salary,* £75.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	26·3	26·6	25·9
Death-rate	14·5	19·0	16·1
Zymotic death-rate	1·18	1·44	1·18
Phthisis ,,	0·43	0·65	0·89
Respiratory ,,	2·81	3·42	3·02
Rate of deaths under 1 year to 1,000 births	111	179	134

The mortality statistics presented by Dr. Trimble compare very favourably with those of the preceding year. The general death-rate shows a reduction of 4·5 per 1,000, and the proportion of infant deaths to births declined from 179 to 111. Measles was not the cause of a single death, but whooping cough and diarrhœa each contributed 4 fatalities. Scarlet fever, of a mild type, gave rise to 85 cases 6 deaths; in Woodplumpton and Grimsargh schools were closed in dealing with this disease. Typhoid fever was responsible for 9 cases 2 deaths, diphtheria 14 cases 3 deaths, erysipelas 7 cases, and puerperal fever 2 cases.

Hospital Accommodation.—The Joint Committee formed under the Order of the County Council have not yet commenced the erection of hospital buildings. A pavilion (12 beds) has been provided at Elswick by the Joint Small-pox Hospital Committee.

Disinfection.—No special appliances. Eighty-eight houses fumigated.

Water Supply.—Extensions of the water supply have aken place in Samlesbury, Barton, &c. In the former township it is proposed to provide the farms with water from the

Manchester Corporation aqueduct, and in the latter district the Local Government Board have sanctioned a loan of £1,200 for laying mains from the Fulwood waterworks.

Sewerage, Scavenging, &c.—Outfall works are in operation at Farington, Ribchester, and Grimsargh. The Local Government Board have under consideration a proposed sewage scheme for Penwortham, and also a scheme for extensions at Ribchester. Longton is badly in want of means of sewerage and sewage disposal. The Penwortham and Farington Parochial Committees contract for scavenging, and Dr. Trimble strongly urges other Parish Councils to take this work under their own control.

Sanitary Inspection.—Dairies and cowsheds show a decided improvement on previous years. Slaughter-houses are kept clean; the Medical Officer of Health advocates the registration of these places. Factories and workshops were found in conformity with the Act. The Inspector (Mr. Ashcroft) reports on 347 nuisances dealt with, which required the service of 110 notices. He examined 40 canal boats with satisfactory results.

Sefton.—(Area in acres, 16,949; Census Population, 9,384.) *Medical Officer of Health*, J. C. Bradshaw, L.R.C.P.E., D.P.H.; *Salary*, £100.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	26·7	28·1	22·4
Death-rate	13·3	13·3	13·2
Zymotic death-rate	2·77	0·46	0·86
Phthisis ,,	0·42	1·38	1·16
Respiratory ,,	1·91	1·73	2·50
Rate of deaths under 1 year to 1,000 births	135	102	112

The Census showed that the population of last year was under-estimated by 741. The general death-rate coincides

with the rate for 1900, but the zymotic rate was considerably increased, owing mainly to the deaths from diarrhœa and measles, 14 and 6 respectively, as compared with 1 from each disease last year. Whooping cough gave rise to 2 deaths, typhoid fever 3, and scarlet fever 1. Sixty-one notifications were received, against 31 in 1900. A case of small-pox notified on October 25th was carefully isolated, and no more cases occurred; it was a very doubtful case. Scarlet fever was responsible for 30 cases, typhoid fever 17, diphtheria 7, erysipelas 5, and puerperal fever 1.

Hospital Accommodation.—An arrangement exists with the Liverpool Corporation to take infectious cases from this district, but towards the close of the year the City Authorities could not find the necessary accommodation and the cottage hospital at Kirkby—usually reserved for small-pox—had to be utilised for scarlet fever. Altogether 15 cases received hospital isolation, scarlet fever 10, typhoid fever 4, and diphtheria 1.

Disinfection.—Bedding, clothing, &c., is disinfected by the Liverpool Corporation under contract.

Water Supply of Kirkby and Aintree obtained from Liverpool. The old grievance with regard to the water supply of Sefton and the barracks has now been removed; a satisfactory supply having been substituted.

Sewerage, Scavenging, &c. — An agreement has been entered into by which the sewage of Fazakerley will be taken into the Liverpool sewers. Improvements have also been carried out at Kirkby Park. Scavenging is performed by contract in the West Derby township. The other townships have no proper system.

Sanitary Inspection.—Bakehouses and slaughter-houses are described as good. The common lodging-houses in West Derby show an improvement, and dairies, cowsheds, &c., are —with one or two exceptions—in a satisfactory condition.

Seventeen privy middens were converted to the water-carriage system, and 29 others were remodelled. The Inspector served 181 notices for sanitary amendments and all were complied with.

Ulverston.—(Area in acres, 127,871; Census Population, 17,716).—*Medical Officer of Health,* G. H. Patterson, M.R.C.S., D.P.H.; *Salary,* £180.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	21·8 ...	21·7 ...	23·6
Death-rate	14·5 ...	14·3 ...	13·4
Zymotic death-rate.....	0·73 ...	0·69 ...	0·62
Phthisis ,, ...	0·95 ...	1·06 ...	0·95
Respiratory ,, ...	1·69 ...	2·13 ...	1·90
Rate of deaths under 1 year to 1,000 births.....	74 ...	78 ...	90

The population of last year was estimated at 1,057 more than the number obtained at the Census. The statistics for the period under review vary but little from those of 1900; the zymotic and infant rates continue very favourable. The divisional death-rates are given as follows:—Cartmel 15·6, High Furness 14·1, Low Furness 13·0, and Hawkshead 12·6. Measles did not give rise to a single death, but its presence at Broughton Beck necessitated school closure. Diarrhœa was responsible for 7 deaths, and whooping cough 2 deaths. A severe epidemic of diphtheria occurred at Chappels, in the township of Kirkby Ireleth, in July, the disease finding its way to Beckside, in the same township, in September. Altogether 114 cases were reported, of which 4 ended fatally. Dr. Patterson says "no extraordinary sanitary defects were discovered to account for such a severe outbreak; nevertheless it must not be forgotten that the chief water supply for Beckside is from the stream which runs through the village, and is liable to all kinds of pollution, and there is no doubt

but that the spread of the disease did follow the course of this stream in a manner, which, to say the least of it, was suspicious." The sufferers were liberally treated by injections of antitoxin, the remedy being used both as a curative and prophylactic agent. The schools at Kirkby and Grizebeck were closed. Scarlet fever was the cause of 31 attacks, chiefly in the Low Furness district. Typhoid fever contributed 10 cases, erysipelas 7 cases, and puerperal fever 1 case.

Hospital Accommodation.—Eleven cases were removed to the joint hospital at High Carley—scarlet fever 10, and typhoid fever 1. In a report presented by the Joint Hospital Board it is stated that extensions at the hospital are contemplated, plans being in course of preparation for a diphtheria ward. The Joint Committee have also made arrangements for any cases of small-pox that may arise in their districts to be treated in the hospital of the Barrow Corporation.

Disinfection.—No apparatus. Houses (52) and schools fumigated.

Water Supply.—During the year the houses in the village of Allithwaite Lower have been connected with the water main, and the waterworks at Cunsey were completed. Negotiations are in progress to obtain satisfactory supplies for Allithwaite Upper, Staveley, Colton, Haverthwaite, Hawkshead, Coniston, Beckside, and Aldingham. Scales has to rely on rain water.

Sewerage, Scavenging, &c.—Sewerage schemes for the following districts are under consideration:—Newton-in-Cartmel, Haverthwaite, Sandside, and Gleaston, and steps are being taken to provide a subsidence tank for the village of Cark. The drainage of Bouth is unsatisfactory. Little attention is given to scavenging.

Sanitary Inspection.—Bakehouses, slaughter-houses, odging-houses, &c.—periodically inspected—appear to be

fairly well kept. Dairies and cowsheds are described as "bad as a rule" although subject to regulations, which are presumably not enforced. The Inspectors (Messrs. Ellwood and Gardner) report on the work carried out, including 331 sanitary amendments.

Warrington.—(Area in acres, 19,360 ; Estimated Population 10,826).—*Medical Officer of Health*, R. Sephton, L.R.C.P.E.; *Salary*, £115.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate.....	28·2	24·7	28·6
Death-rate	13·2	12·9	14·9
Zymotic death-rate.....	2·21	2·15	1·65
Phthisis ,, ...	0·55	0·66	0·94
Respiratory ,, ...	2·12	2·06	2·61
Rate of deaths under 1 year to 1,000 births.....	127	127	136

The Census showed that the population of last year was over-estimated by 1,252. The birth-rate is the highest recorded during the past six years. The mortality statistics vary but little from those of 1900; with the exception of the zymotic rate they compare favourably with the mean of the 10 years 1891-1900. The registration district of Sankey had a death-rate of 14·6 per 1,000, Rixton 13·3, and Winwick 10·8. Measles, although the cause of only 1 death, was very prevalent during the greater part of the year, and schools had to be closed in consequence at Padgate, Orford, and Croft. Diarrhœa with 17 deaths proved unusually fatal; improper feeding combined with unfavourable climatic conditions was the main factor in the production of this disease. Scarlet fever had a diminished prevalence, 34 cases 2 deaths occurring, against 58 cases 2 deaths in the previous year. The remaining notifications were, typhoid fever 5 cases (1 fatal), diphtheria 14 (3 fatal), and erysipelas 7.

Hospital Accommodation available at the Warrington Corporation hospital. Seven cases were removed, viz., scarlet fever 6 and typhoid fever 1.

Disinfection.—Steam apparatus at hospital used.

Water Supply.—With the exception of a few isolated places the district is supplied by the Warrington Corporation. The mains have recently been extended.

Sewerage, Scavenging, &c.—The sewage works at Burtonwood "are still giving very satisfactory results." In the scattered districts sewage flows into open ditches. Scavenging is undertaken by contract.

Sanitary Inspection.—Eleven houses condemned were afterwards made habitable. Bakehouses, lodging-houses, slaughter-houses, knackers yards, dairies, cowsheds, milk-shops, &c., have, on the whole, been found in good condition. The Inspector (Mr. Kerfoot), examined 35 canal boats, in two instances summonses were issued for infringements of the Act, and in each case a fine of 5s. with costs was inflicted. He gives details of the 351 nuisances dealt with.

West Lancashire.—Area in acres, 69,051; Estimated Population, 26,813).—*Medical Officer of Health,* G. E. Scholefield, M.D., D.P.H.; *Salary,* £350.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years, 1891-1900.
Birth-rate	25·5	24·4	26·8
Death-rate	13·8	14·2	14·8
Zymotic death-rate	1·45	0·82	1·16
Phthisis ,,	1·00	0·82	1·17
Respiratory ,,	2·57	2·29	2·69
Rate of deaths under 1 year to 1,000 births	115	123	123

The population of last year was over-estimated by 1,073.

With the exception of the zymotic rate all the mortality averages for the period under review compare favourably with the mean of the 10 years 1891-1900. The general death-rate varied from 22·76 in Ainsdale, 22·22 in Simonswood, 20·25 in Melling, 18·07 in Bispham, 17·08 in Aughton, 16·66 in Rufford, 15·31 in Bickerstaffe, to 12·84 in Altcar, 12·78 in Halsall, 12·54 in Maghull, 11·85 in Hesketh, 10·20 in Scarisbrick, and 9·38 in Formby. Diarrhœa, with 22 deaths, was the most fatal of the zymotic diseases. "Bottle-feeding was again the exciting cause of the illness in most of the cases." Measles did not cause any deaths, but 36 cases were voluntarily notified. One hundred cases of whooping cough were ascertained, chiefly from the school authorities; 4 deaths were due to this disease. The greatest prevalence of the disease took place in Tarleton, where school closure was resorted to. Scarlet fever had a somewhat wide spread, 120 cases being notified with 1 death. At Holt Green the school was closed for four weeks with satisfactory results. Typhoid fever contributed 27 cases 4 deaths, diphtheria and membranous croup 40 cases 8 deaths, erysipelas 26 cases, and puerperal fever 6 cases. Dr. Scholefield has drawn up a circular, "Rules to be observed in the management of infectious diseases," and a copy is left at each house when a notification is received.

Hospital Accommodation.—The hospital at Aughton is being extended by the addition of a new block to contain 12 beds. The arrangement with Southport (B.) to take patients from certain parts of this district is still in force. Fifty-one cases received hospital isolation, viz., scarlet fever 49 and typhoid fever 2. The Medical Officer of Health urges the Council to provide some hospital accommodation for small-pox, either singly or in conjunction with a neighbouring district.

Disinfection.—Infected bedding, clothing, &c., is disinfected in the steam apparatus (Thresh) at the hospital; 6,586 articles being dealt with during the year.

Water Supply.—The district on the whole is well supplied with water of excellent quality, chiefly from the Southport Waterworks Company. Extensions of the mains have taken place in Aughton, Formby, Halsall, and Scarisbrick. The undertaking of the Waterworks Company has during the year been vested, by Act of Parliament, in a Joint Board, consisting of members of this and two adjacent Authorities. Of 48 samples of well water examined only seven were considered suitable for domestic purposes.

Sewerage, Scavenging, &c.—In the greater part of the district the cesspool system, with its attendant disadvantages, is the only available means of dealing with sewage. At Aughton part of the sewage is treated at the outfall works, and the remainder is discharged into the Ormskirk sewers. Plans have been prepared in connection with the sewerage scheme for Formby, and an application will shortly be made to the Local Government Board for sanction to a loan with which to proceed with the work. Scavenging is performed by contract in Ainsdale, Formby, and the northern part of Aughton; in the remaining townships householders are responsible for this work.

Sanitary Inspection.—House accommodation is, on the whole, fairly satisfactory; in some parts of the district low, ill-ventilated houses still exist, but each year sees some improvement. One notice was served under the Housing of the Working Classes Act. Bakehouses, lodging-houses, slaughter-houses, factories, workshops, &c., are systematically inspected. Dairies, cowsheds, and milkshops—subject to regulations adopted last year—receive regular visits, and in consequence their condition is much improved. No infringements of the Canal Boats Acts were observed on the 42 boats examined. The Inspector (Mr. Peach) gives full details of the sanitary work carried out in each township; altogether 887 nuisances were dealt with. Notices served amounted to 396, and in 13 instances legal proceedings were instituted.

Whiston.—(Area in acres, 31,281; Census Population, 18,961.)—*Medical Officer of Health*, Egerton F. Hall, M.D.; *Salary*, £150.

Per 1,000 of Population.	1901.	1900.	Mean of 10 years 1891-1900.
Birth-rate	26·7	25·5	26·8
Death-rate	13·0	12·6	13·5
Zymotic death-rate	1·21	1·09	1·64
Phthisis ,,	0·84	0·94	0·87
Respiratory ,,	2·26	2·25	3·01
Rate of deaths under 1 year to 1,000 births	134	77	126

The general death-rate excludes 320 deaths of persons not belonging to the district, occurring in the workhouse and asylum. With the exception of the infantile mortality the statistics vary but little from those recorded in 1900. Diarrhœa gave rise to 6 deaths, measles 4, and whooping cough 3. School closure was resorted to in the attempt to prevent the spread of the two last mentioned diseases. Diphtheria, together with membranous croup, had an increased prevalence, 24 cases 8 deaths occurring, against 5 cases 4 deaths last year, and the scarlet fever notifications were also increased, viz., 43 (1 fatal), against 30. Typhoid fever, however, was less troublesome, with 12 cases 1 death, against 25 cases 6 deaths in the previous year. Erysipelas caused 17 cases, and puerperal fever 1 case.

Hospital Accommodation.—Thirteen cases were treated in the sanatorium, viz., scarlet fever 6, diphtheria 4, and typhoid fever 3.

Disinfection.—Infected clothing, &c., disinfected in the steam apparatus at the hospital.

Water Supply, on the whole, good. Negotiations with the St. Helens Corporation are in progress for a better supply to Clock Face, Bold.

Sewerage, Scavenging, &c.—The sewage farm at Rainhill works well, but the method of treatment at Eccleston is not entirely satisfactory. The new sewerage scheme for Ditton is completed, and the house connections are rapidly being made. Scavenging is said to be efficiently performed.

Sanitary Inspection.—Two houses were condemned as unfit for human habitation. Bakehouses and slaughter-houses are well kept, but the condition of dairies and cowsheds is not stated, as these places do not come under observation. Dairy, &c., regulations ought to be adopted without further delay. Details are given of the sanitary work accomplished in each township. Altogether 135 nuisances were abated.

Wigan.—(Area in acres, 11,695; Census Population, 6,045.) *Medical Officer of Health*, J. H. Wilson, M.D.; *Salary*, £80.

Per 1,000 of Population.	1901.	1900	Mean of 10 years, 1891-1900.
Birth-rate	27·6	32·1	33·0
Death-rate	17·0	16·0	16·8
Zymotic death-rate	0·66	1·80	1·93
Phthisis ,,	1·15	0·65	1·01
Respiratory ,,	3·30	4·88	3·64
Rate of deaths under 1 year to 1,000 births	149	142	137

The birth-rate shows a decrease of 5·4 per 1,000 as compared with the mean of the 10 years 1891-1900. The general death-rate, phthisis rate, and the proportion of infant deaths to births are slightly above the average of the past decade. The township death-rates were:—Parbold 18·99, Dalton 18·75, Shevington 18·16, Wrightington 17·43, Worthington 11·62, and Haigh 11·60. The zymotic rate (0·66) was entirely due to 3 deaths from diphtheria and 1 death from typhoid fever, all in the township of Shevington. The notifications received numbered 51, Haigh contributing 23 and Shevington 16.

Scarlet fever contributed 24 cases, diphtheria and membranous croup 13, typhoid fever 6, erysipelas 7, and puerperal fever 1.

Hospital Accommodation.—"The district of Haigh has the right of sending any infectious cases which may occur into the Wigan Corporation sanatorium, but the rest of the district has no provision," excepting a cottage hospital which is reserved for small-pox. The privilege referred to above was not taken advantage of during the year.

Disinfection.—No apparatus.

Water Supply.—Haigh, Shevington, Parbold, and portions of Worthington and Wrightington have good supplies. Dalton has to rely on well water.

Sewerage, Scavenging, &c.—Cesspools and open ditches are at present the only means of sewage disposal. Schemes have been formulated and negotiations for land purchase are in progress for the treatment of sewage in the townships of Haigh, Worthington, Shevington, Wrightington, and Parbold. Scavenging, as performed by contract, is described as satisfactory.

Sanitary Inspection.—Bakehouses and the only slaughterhouse in the district are well conducted. No regulations have been made for the control of dairies and cowsheds, and these places are not subject to any official inspection. Canal boats are examined. Details of the Inspector's work are not available.

*EXTRACT FROM THE METEOROLOGICAL REPORT

BY THE

REV. W. SIDGREAVES, S.J., F.R.A.S.,

Of Stonyhurst College Observatory.

SUMMARY OF OBSERVATIONS

For 1901.

Results of Observations taken during the Year.		Mean for the last 54 Years.
Mean Reading of the Barometer ...	29·526in.	29·493in.
Highest ,, on Nov. 25th	30·245in.	30·282in.
Lowest ,, on Mar. 2nd	28·268in.	28·252in.
Range of Barometer Readings... ...	1·973in.	2·030in.
Highest Reading of a Max. Therm. on July 20th	89·0	81·9
Lowest Reading of a Min. Therm. on March 28th	15·8	15·4
Range of Thermometer Readings ...	73·2	66·5
Mean of all the Highest Readings ...	56·1	54·9
Mean of all the Lowest Readings ...	39·8	40·6
Mean Daily Range	16·3	14·3
Deduced Yearly Mean (from Mean of Max. and Min.)	47·0	46·9
Mean Temperature (from dry bulb) ...	47·6	46·8
Adopted Mean Temperature	47·3	46·9
Mean Temperature of Evaporation ...	44·4	44·5
Mean Temperature of Dew Point ...	41·2	42·1
Mean elastic force of Vapour	0·270in.	0·273in.
Mean weight of Vapour in a cubic foot of air	3·1gr.	3·3gr.
Mean additional weight required for saturation	0·8gr.	0·7gr.
Mean degree of humidity (saturation 1·00)	0·80	0·83
Mean weight of a cubic foot of air ...	539·9gr.	539·2gr.
Total fall of rain in the year	38·980in.	47·040in.
Number of days per month on which rain fell	15·4	18·5

The Maximum monthly mean height of the Barometer was in February, 1891, and was ... ... 29·997in.
The Minimum ,, ,, in Dec., 1868, and was 28·984in.
The maximum yearly mean height of the Barometer was in 1896, and was ... ... 29·584in.

* Introduced by kind permission.

The Minimum yearly mean height of the Barometer was in 1886, and was	29·389in.
The greatest monthly range of the Barometer was in January, 1884, and was	2·409in.
The least ,, ,, in July, 1852, and was ...	0·505in.
The highest reading of the Barometer during 54 years was on January 9th, 1896, and was... ...	30·597in.
The lowest ,, ,, on Dec. 8th, 1886, and was	27·350in.
Extreme range	3·247in.
The highest temperature was on July 20th, 1901, and was	89·0
The lowest ,, ,, January 15th, 1881 ...	4·6
The highest adopted mean temperature of a month, July, 1901, and was...	63·2
The lowest ,, ,, ,, February, 1855	28·6
The highest adopted mean temperature of a year, 1868	49·1
The lowest ,, ,, ,, ,, ,, 1879	44·1
The greatest monthly mean weight of vapour in a cubic foot of air, July, 1852	5·1gr.
The least ,, ,, February, 1855, and 1895	1·4gr.
The greatest fall of rain in a month was in October, 1870, and was	13·437in.
The least ,, ,, ,, May, 1859...	0·249in.
The greatest number of days on which rain fell in one month, Jan., 1872, Oct., 1873, Dec., 1868...	31
The least ,, ,, ,, March, 1852...	3
The greatest fall of rain in one year in 1866... ...	62·183in.
The least ,, ,, ,, 1887... ...	31·250in.
The greatest number of days in one year on which rain fell ... ... 1872... ...	319
The least ,, ,, ,, 1855... ...	148

Summary of Wind.

	N	NE	E	SE	S	SW	W	NW
No. of days in the year on which the prevailing wind was	50	37	40	11	33	57	120	17
Mean velocity in miles per hour ...	7·1	9·0	8·9	9·2	12·1	11·1	11·1	8·3
Total No. of miles for each direction..	8542	7957	8560	2437	9571	15126	31879	3374

The total No. of miles registered during the year was 87446.

The max. Velocity of the wind was 53 miles per hour S.E., on 23rd December, at 7-0 p.m.

TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY.

Month.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
January	0·7	0·8	0	0	3·3	5·2	0	0	0	2·0	0	0	0	0	3·5	0	0
February	2·6	0	0	0	6·0	7·2	0	0	0	0	4·5	6·8	2·8	6·0	0·3	4·3	2·7
March	2·4	0	0·9	1·0	3·2	2·2	1·1	6·5	5·4	2·2	4·4	4·2	7·0	3·6	0	0·7	0
April	7·3	0	5·3	8·8	6·6	0	1·1	8·5	8·4	10·2	9·4	3·3	4·1	2·6	9·2	6·7	10·7
May	9·1	5·5	6·7	11·3	8·0	5·8	7·5	12·5	0	4·3	8·2	7·2	12·3	11·7	12·9	13·8	6·7
June	5·8	6·7	2·3	4·3	1·8	7·5	1·30	13·7	7·0	9·4	13·2	5·6	0·1	5·8	9·1	3·1	13·5
July	0	0	13·7	14·8	5·0	3·3	9·6	15·2	9·3	12·1	8·8	1·5	10·2	8·4	11·5	11·5	5·7
August	8·5	13·9	1·4	5·1	2·5	0·3	0	0	4·1	3·2	10·4	4·5	5·7	0	4·9	12·4	0
September	5·7	9·7	2·7	10·5	7·6	1·2	6·2	0	3·5	3·1	6·1	0	4·5	2·7	4·8	7·2	0
October	0	0·8	3·7	6·5	2·3	5·0	9·2	0	7·2	1·2	8·0	0	1·2	0·4	0	1·2	2·7
November	7·7	0·2	5·5	2·9	1·8	0	0·3	0·2	0	0	0·5	0	0	5·8	0	4·2	1·7
December	0	3·0	2·7	0	0	0·1	0	0·5	1·3	1·8	4·6	0	0	1·8	1·3	0	0

TOTAL AMOUNT OF SUNSHINE RECORDED ON EACH DAY.

(Continued.)

Month.	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Monthly Total.	Per centage each month
January	0	0	0	0	0·7	1·1	0	0	0	2·2	3·6	3·3	2·2	5·4	34·0	13·7
February	0	2·2	0	1·7	2·4	1·4	0	0	0	2·5	0	0	0	0	53·4	19·6
March	6·4	6·7	5·4	11·7	3·1	0·1	5·9	7·4	7·4	8·5	9·7	0	1·4	9·8	128·3	35·1
April	0	6·8	12·3	12·6	6·3	7·8	11·8	9·3	6·3	10·9	3·8	0	5·7	0	195·8	46·7
May	11·8	1·8	4·6	13·8	14·7	14·6	14·4	12·2	0	2·6	7·2	2·0	4·7	11·3	259·2	52·6
June	10·3	1·4	0	10·4	7·3	1·7	8·5	7·7	5·2	10·3	5·5	9·6	4·2	0	204·0	40·2
July	11·0	8·2	12·9	1·5	1·5	4·5	0	0	6·8	7·0	1·1	12·2	0	10·3	217·6	42·8
August	11·3	12·4	13·0	11·1	12·7	12·3	10·1	9·4	2·3	10·7	10·8	6·0	0	10·4	209·4	45·8
September	8·5	0	4·0	0	9·7	0	1·9	4·9	8·9	0	4·0	4·4	1·3	0	123·1	32·5
October	0·4	5·5	4·7	2·7	3·6	3·2	0	3·6	5·2	0·3	0	0	2·9	8·0	89·5	27·5
November	0	0	0	0	0·5	5·4	4·8	0	1·5	1·6	5·7	2·4	0	0	52·7	20·6
December	4·7	2·2	3·7	0	0	0	0	0	1·8	1·2	0	0	0	0·5	31·2	13·5

MONTHLY TABLES FOR EACH HOUR OF RECORDED SUNSHINE.

Local apparent time.	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9
January	0	0	0	0	1·7	3·6	4·8	7·3	6·5	7·2	2·7	0·2	0	0	0	0	0
February	0	0	0	0·5	3·2	5·5	7·9	9·0	9·4	7·0	5·2	4·8	0·9	0	0	0	0
March	0	0	2·4	7·8	11·2	10·7	11·3	14·2	13·5	14·9	15·6	13·5	9·4	3·2	0·6	0	0
April	0	1·4	7·7	10·7	15·4	17·4	17·4	19·2	20·5	17·8	18·2	18·4	16·2	11·9	3·6	0	0
May	1·6	10·4	14·9	19·0	21·1	20·5	19·9	23·1	21·8	22·3	21·1	17·8	16·5	15·4	11·3	2·5	0
June	1·7	5·8	12·4	16·4	18·0	17·9	18·2	15·5	14·7	15·4	15·0	14·6	14·1	13·6	7·7	3·0	0
July	2·1	5·1	11·6	14·9	16·2	18·1	17·5	16·5	18·2	18·7	17·1	16·6	16·3	13·6	10·4	4·7	0
August	0	2·6	10·8	15·8	17·5	20·8	18·7	19·0	18·6	18·2	17·3	17·1	15·2	11·7	5·7	0·4	0
September	0	0	1·5	7·5	12·1	13·8	15·9	12·9	11·4	12·2	12·8	9·8	8·7	4·5	0	0	0
October	0	0	0	1·5	7·2	10·4	11·4	12·6	13·0	10·2	8·9	9·4	4·9	0	0	0	0
November	0	0	0	0	1·1	5·6	8·9	9·6	9·9	9·3	6·8	1·5	0	0	0	0	0
December	0	0	0	0	0·6	4·0	6·1	6·0	7·2	4·7	2·6	0	0	0	0	0	0
Total	5·4	25·3	61·3	94·1	125·3	148·3	158·0	164·9	164·7	157·9	143·3	123·7	102·2	73·9	39·3	10·6	0

VITAL STATISTICS.

TABLE I.—DEATHS registered during the year 1901 in the **URBAN SANITARY DISTRICTS** of the Administrative County of Lancaster, classified according to Ages and Localities, and showing also the Area and Population of such Localities, and the Birth-Rate and Death-Rate during the year.

NOTES.—(*a*) The Area and Population of each District are taken from the "corrected" Census Return.

(*b*) The Deaths of Residents registered in Public Institutions beyond the limits of the Districts are included in these Tables, and the Deaths of Non-Residents registered in Public Institutions in the Districts are excluded.

URBAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1901.		Birth-rate.	Death-rate.	Death-rate from the seven principal Zymotic Diseases.	Phthisis Death-rate.	Respiratory Death-rate.		At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
ABRAM	1984	6306	6325	248	39·2	26·7	7·27	1·26	4·90	225	169	56	34	13	12	34	20
ACCRINGTON (Borough)..	3427	43122	43223	1074	24·8	16·3	1·78	0·92	3·21	159	706	171	76	33	33	259	134
ADLINGTON	1062	4523	4523	125	27·6	11·4	1·10	0·66	0·66	112	52	14	10	2	1	17	8
ALLERTON	1589	1101	1101	21	19·0	7·2	Nil.	Nil.	0·90	47	8	1	..	..	..	3	4
ASHTON-IN-MAKERFIELD..	6251	18687	18807	749	39·8	19·0	3·40	1·22	3·29	188	358	141	50	18	17	91	41
ASHTON-UNDER-LYNE (Borough).....	1346	43890	43890	1092	24·8	18·7	1·86	1·79	3·91	182	821	199	75	34	37	299	177
ASPULL	1906	8388	8388	310	36·9	22·2	5·12	0·35	4·29	151	187	47	44	14	9	47	26
ATHERTON.....	2265	16211	16211	535	33·0	18·6	4·62	0·86	3·14	201	303	108	39	10	17	89	40
AUDENSHAW	1241	7216	7231	150	20·7	13·2	0·82	0·82	2·21	153	96	23	13	3	4	38	15
BACUP (Borough)	6120	22505	22505	485	21·5	16·1	1·06	0·84	3·37	142	364	69	39	17	20	122	97
BARROWFORD	1385	4959	5000	131	26·2	13·8	2·20	0·60	3·60	129	69	17	9	5	3	24	11

TABLE I.—Continued.

URBAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census 1901.	Estimate to middle of 1901.		Birth-Rate.	Death-Rate.	Death Rate from the seven principal Zymotic Diseases.	Phthisis Death Rate.	Respiratory Death Rate.		At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Billinge	4596	4232	4232	135	31·9	17·0	3·30	0·47	3·30	214	72	29	7	1	2	17	16
Birkdale	2699	14197	14197	319	22·4	14·0	1·12	1·19	1·83	147	199	47	19	4	7	61	61
Blackpool (Borough) ..	3601	47348	50750	1162	22·8	16·4	2·30	0·96	2·18	167	836	195	81	41	27	336	156
Blackrod	2392	3875	3875	123	31·7	19·6	3·61	Nil.	4·12	162	76	20	9	4	2	28	13
Brierfield	807	7288	7600	206	27·1	15·2	2·36	0·78	2·76	194	116	40	13	6	5	27	25
Carnforth	1505	3040	3040	92	30·2	10·8	1·31	0·32	1·97	86	33	8	4	..	2	14	5
Chadderton.....	3082	24892	24892	673	27·0	20·0	2·81	1·60	3·49	169	499	114	76	35	26	170	78
Childwall	830	219	219	3	13·6	Nil.	Nil.	Nil.	Nil.	Nil.	..	..	..	..	..	..	..
Chorley (Borough)	3614	26852	26852	759	28·2	18·0	1·37	0·96	2·42	181	485	138	49	17	20	164	97
Church	529	6463	6500	166	25·5	19·3	3·07	1·69	3·23	222	126	37	11	6	5	44	23
Clayton-le-Moors.....	1059	8153	8200	230	28·0	13·7	1·34	1·34	2·80	143	113	33	14	4	9	38	15
Clitheroe (Borough) ..	2385	11414	11450	263	22·9	15·9	1·74	0·78	2·70	163	183	43	18	10	6	49	57
Colne (Borough)	5063	23000	23000	628	27·3	14·3	1·43	0·91	2·91	170	330	107	36	14	17	98	58
Crompton.....	2865	13427	13427	354	26·3	16·9	1·19	0·59	3·05	118	227	42	32	5	7	91	50
Croston	2347	2102	2102	51	24·2	10·9	0·47	0·47	1·90	78	23	4	1	2	..	6	10
Dalton-in-Furness	7990	13020	13020	413	31·7	17·2	1·30	1·30	2·99	166	225	69	22	4	9	68	53

TABLE I.—Continued.

URBAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1901.		Birth-rate.	Death-rate.	Death-rate from the seven principal Zymotic Diseases.	Phthisis Death-rate.	Respiratory Death-rate.		At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Darwen (Borough)	5959	38212	38212	858	22·4	16·2	2·30	0·75	3·61	168	620	145	100	33	20	166	156
Denton	2594	14934	14962	356	23·1	16·7	1·00	1·73	2·20	160	252	57	29	11	19	97	39
Droylsden	1010	11087	11100	316	28·4	16·7	2·97	0·54	3·42	151	186	48	24	12	7	57	38
Eccles (Borough)	2057	34369	34500	931	26·9	16·6	2·72	1·24	2·72	164	575	153	64	24	34	192	108
Failsworth	1072	14152	14152	432	30·5	18·1	2·68	1·20	2·89	155	257	67	55	10	11	79	35
Farnworth	1504	25925	26000	744	28·6	19·0	3·61	0·80	3·19	223	494	166	75	19	20	141	73
Fleetwood	2510	12082	12264	357	29·1	14·1	1·38	0·32	2·93	131	174	47	19	4	13	67	24
Fulwood	2116	*2870	*2870	63	21·9	11·4	0·34	Nil.	1·04	63	33	4	2	1	..	12	14
Garston	1673	17289	18800	562	29·8	16·1	2·87	0·47	3·61	185	304	104	60	26	9	69	36
Golborne	1679	6789	7000	231	33·0	14·7	3·28	0·14	3·14	164	103	38	21	4	2	26	12
Gorton	1147	26564	27000	886	32·8	20·3	3·77	1·33	3·44	205	549	182	78	32	49	140	68
Grange	1540	1993	1993	21	10·5	11·5	0·50	3·01	1·00	142	23	3	..	..	2	9	9
Great Crosby.....	1907	7555	7555	162	21·4	12·5	1·05	1·05	2·25	129	95	21	11	2	3	25	33
Great Harwood	2868	12015	12015	310	25·8	16·3	2·16	0·99	3·07	170	197	53	21	10	10	59	44
Haslingden (Borough)..	8196	18543	18543	372	20·0	14·0	1·29	0·88	2·58	153	261	57	24	9	10	97	64

* Excluding a population of 2368 in Public Institutions.

TABLE I.—Continued.

URBAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1901.		Birth-rate.	Death-rate.	Death-rate from the seven principal Zymotic Diseases.	Phthisis Death-rate.	Respiratory Death-rate.		At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Haydock	2411	8575	8650	367	42·4	18·9	5·54	0·69	2·31	190	164	70	27	6	9	39	13
*Heaton Norris	1635	9474	9494	157	16·5	12·0	1·57	1·15	0·84	133	114	21	6	3	10	38	36
Heysham	1835	3381	3381	85	25·1	11·8	0·59	2·07	0·88	129	40	11	2	3	5	14	5
Heywood (Borough)	3660	25458	25458	544	21·3	16·0	1·33	2·12	3·06	128	408	70	38	20	25	165	90
Hindley	2612	23504	23616	927	39·2	21·2	4·91	0·76	4·48	213	503	198	91	35	16	99	64
Horwich	3257	15084	15084	462	30·6	13·9	1·39	0·39	2·98	162	211	75	21	10	7	58	40
Hurst	638	7145	7145	201	28·1	16·3	1·39	1·95	2·37	199	117	40	10	7	5	33	22
Huyton-with-Roby	3053	4661	4661	127	27·2	15·8	1·71	0·64	2·36	127	74	24	9	3	3	19	16
Ince-in-Makerfield	2320	21262	21321	857	40·1	23·0	4·59	0·60	5·53	235	492	202	99	33	10	100	48
Irlam	4620	4335	4335	160	36·9	15·2	3·22	0·46	0·92	93	66	15	14	2	1	18	16
Kearsley	1005	9218	9350	254	27·1	17·0	3·42	1·49	2·78	228	159	58	19	7	10	45	20
Kirkham	857	3693	3693	114	30·8	17·8	1·08	0·81	2·16	192	66	22	10	3	3	15	13
Lancaster (Borough) ..	3506	40329	40570	1061	26·1	17·9	2·75	1·57	3·22	190	727	202	109	50	27	230	109
Latham and Burscough..	13660	7113	7113	224	31·4	15·3	1·54	0·84	1·54	147	109	33	15	7	6	28	20
Lees	203	3621	3621	99	27·3	16·8	1·10	1·10	2·76	151	61	15	8	2	2	20	14

* By the extension of the County Borough of Stockport, 9th November, 1901, the acreage of this district was reduced to 1,619.

TABLE I.—Continued.

URBAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1901.		Birth-Rate.	Death-Rate.	Death Rate from the seven principal Zymotic Diseases.	Phthisis Death Rate.	Respiratory Death Rate.		At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Leigh (Borough)	6358	40001	40001	1344	33·5	17·4	3·17	1·04	3·37	165	698	222	105	26	35	207	103
Levenshulme	606	11485	11700	374	31·9	12·9	1·45	0·51	2·05	131	152	49	15	5	4	45	34
Leyland	3725	6865	6865	171	24·9	15·7	1·74	0·43	2·03	105	108	18	14	3	6	46	21
Litherland	857	10592	10592	405	38·2	15·2	3·49	0·94	3·11	183	162	74	24	4	5	41	14
Littleborough	7853	11166	11166	238	21·3	18·5	0·62	1·70	3·67	147	207	35	24	7	8	82	51
Little Crosby	1903	563	563	11	19·5	7·1	Nil.	1·77	Nil.	Nil.	4	..	..	1	1	2	..
Little Hulton	1699	7294	7294	225	30·8	14·3	2·46	1·09	1·91	120	105	27	18	5	7	31	17
Little Lever.....	808	5119	5119	148	28·9	20·9	5·27	0·78	4·88	209	107	31	10	7	6	36	17
Little Woolton	1389	1091	1091	18	16·4	9·1	Nil.	Nil.	Nil.	111	10	2	..	..	..	3	5
Longridge	3285	4304	4304	126	29·2	20·4	1·85	0·69	3·02	174	88	22	10	5	2	21	28
Lytham	2464	7185	7185	145	20·1	14·7	1·25	0·97	1·80	144	106	21	8	2	3	40	32
Middleton (Borough) ..	4775	25178	25178	608	24·1	19·5	1·39	1·90	3·21	177	493	108	40	25	21	187	112
Milnrow	5198	8241	8241	157	19·0	14·4	0·60	1·69	2·06	95	119	15	12	5	6	46	35
Morecambe	1801	11798	11931	278	23·3	13·1	0·83	0·25	2·43	125	157	35	13	7	5	54	48
Mossley (Borough)	3622	13452	13452	317	23·5	19·4	2·30	0·66	2·52	113	262	36	33	19	20	103	51
Moss Side	421	26677	27677	470	16·9	13·1	1·44	0·97	2·74	155	364	73	34	13	20	117	107

TABLE I.—Continued.

URBAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1901.		Birth-rate.	Death-rate.	Death-rate from the seven principal Zymotic Diseases.	Phthisis Death-rate.	Respiratory Death-rate.		At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Much Woolton	792	4731	4731	123	25·9	16·9	3·17	1·47	4·01	130	80	16	12	5	1	32	14
Nelson (Borough)	3466	32816	33000	799	24·2	13·6	1·12	0·60	3·15	142	451	114	62	25	26	138	86
Newton-in-Makerfield .	3105	16699	16808	494	29·3	14·6	1·66	0·47	2·97	163	247	81	30	14	12	74	36
Norden	5358	3907	3907	101	25·8	13·0	1·02	0·51	2·81	148	51	15	8	..	4	11	13
Ormskirk	574	6857	6857	225	32·8	19·5	1·02	1·60	4·22	160	134	36	15	4	2	45	32
Orrell	1617	5436	5436	209	38·4	18·2	4·96	0·91	2·39	191	99	40	12	4	6	17	20
Oswaldtwistle	4885	14192	14500	386	26·6	17·5	2·20	0·75	3·58	209	254	81	40	11	7	81	34
Padiham	970	12205	12205	341	27·9	20·4	1·63	1·39	2·70	219	249	75	30	14	10	81	39
Pemberton	2895	21664	21664	867	40·0	18·2	3·09	0·78	3·46	169	396	147	51	21	20	102	55
Poulton-le-Fylde	915	2223	2223	51	22·9	13·9	0·44	Nil.	1·34	137	31	7	3	1	..	13	7
Preesall-with-Hackinsall	3232	1423	1423	43	30·2	14·0	2·81	Nil.	2·10	23	20	1	2	2	..	6	9
Prescot	297	7855	7855	277	35·2	18·8	2·03	1·27	2·54	169	148	47	18	4	4	48	27
Prestwich	3167	*9842	*9842	212	21·5	15·7	2·74	1·11	2·84	117	155	25	21	13	8	47	41
Radcliffe	3098	25368	25400	636	25·0	18·3	2·79	1·22	3·85	191	466	122	50	31	34	146	83
Rainford	5877	3359	3359	96	28·5	13·3	1·78	0·29	1·78	125	45	12	4	2	..	16	11

* Excluding a Population of 2,997 in the County Asylum.

TABLE I.—Continued.

URBAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1901.		Birth-rate.	Death-rate.	Death-rate from the seven principal Zymotic Diseases.	Phthisis Death-rate.	Respiratory Death-rate.		At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Ramsbottom	6424	15920	15920	363	22·8	15·7	1·38	1·50	2·44	132	251	48	15	7	13	81	87
Rawtenstall (Borough).	9535	31053	31090	731	23·1	16·7	0·99	0·80	3·40	145	520	106	48	12	31	188	135
*Reddish	1541	8668	8700	179	24·6	14·4	1·37	1·93	2·34	167	105	30	10	2	5	38	20
Rishton	2985	7031	7031	166	23·6	14·6	2·70	1·40	1·84	144	103	24	15	6	5	38	15
Royton	2145	14881	14900	386	25·9	17·9	2·48	0·67	4·02	150	268	58	30	18	14	89	59
St. Annes-on-the-Sea	3342	6838	7509	132	17·5	13·7	1·59	0·93	1·19	181	103	24	10	4	7	34	24
Skelmersdale	1942	5699	5699	209	36·6	18·5	1·22	1·22	4·56	124	106	26	16	9	5	38	12
Southport (Borough)	5144	48083	48250	937	19·4	16·0	1·61	1·11	2·11	166	776	156	64	27	31	272	226
Standish-with-Langtree	3266	6303	6325	214	33·8	17·7	2·84	1·10	3·32	196	112	42	9	6	7	33	15
Stretford	3240	30436	30436	611	20·0	14·7	2·06	1·08	2·26	148	449	91	45	21	21	175	96
Swinton and Pendlebury	2212	27005	27005	808	29·9	19·2	3·99	0·59	4·03	212	519	172	73	36	20	144	74
Thornton	2996	3108	3166	108	34·1	11·0	0·94	0·31	1·57	92	35	10	7	..		9	8
Tottington	2543	6118	6118	135	22·0	15·8	1·30	0·98	3·59	133	97	18	11	10	6	24	28
Trawden	6815	2641	2641	58	21·9	12·8	Nil.	1·13	2·65	137	34	8	3	3	1	10	9

* By the Extension of the County Borough of Stockport, 9th November, 1901, the whole of this district was absorbed. Statistics refer to 10 months.

TABLE I.—Continued.

URBAN SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1901.		Birth-Rate.	Death-Rate.	Death Rate from the seven principal Zymotic Diseases.	Phthisis Death Rate.	Respiratory Death Rate.		At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Turton	17335	12355	12355	275	22·2	12·4	0·88	0·97	1·94	72	154	20	15	11	9	57	42
Tyldesley-with-Shakerley	2490	14843	15250	521	34·1	18·5	3·08	0·45	4·19	201	283	105	41	15	12	71	39
Ulverston	3172	10064	10064	285	28·3	15·6	1·09	0·89	2·58	129	157	37	12	6	10	44	48
Upholland	4686	4773	4773	175	36·6	18·0	3·56	0·83	2·93	165	86	29	11	7	3	18	18
Urmston	992	6594	6600	140	21·2	13·4	1·51	0·75	2·27	200	89	28	5	3	2	34	17
Walton-le-Dale	4658	11271	11271	274	24·3	11·4	1·86	0·88	1·68	105	129	29	11	5	6	49	29
Wardle	3192	4427	4427	83	18·7	14·0	0·67	1·12	4·29	96	62	8	4	2	4	28	16
Waterloo-with-Seaforth	952	23102	23102	611	26·4	12·1	1·25	0·69	1·90	121	281	74	20	11	13	113	50
Westhoughton	5560	14377	14441	470	32·5	16·1	2·56	0·69	4·15	170	233	80	24	14	8	64	43
Whitefield	1406	6588	6588	154	23·3	19·4	4·55	1·06	3·18	220	128	34	18	15	3	34	24
Whitworth	4485	9578	9578	200	20·8	17·2	0·41	1·77	3·96	150	165	30	16	8	11	64	36
Widnes (Borough)	3110	28580	28580	944	33·0	18·0	1·78	0·41	5·53	189	515	179	78	28	18	155	57
Withington	5818	*33770	*34000	642	18·8	12·1	1·11	0·76	1·94	127	413	82	32	13	13	153	120
Withnell	3705	3349	3349	81	24·1	17·9	Nil.	1·19	2·68	123	60	10	7	3	1	24	15
Worsley	5412	12462	12462	279	22·3	15·6	1·92	0·80	2·08	154	195	43	15	6	7	69	55

* Excluding a Population of 2,432 in the Manchester Workhouse.

TABLE II.—DEATHS registered during the year 1901, in the **URBAN SANITARY DISTRICTS** of the Administrative County of Lancaster, classified according to Diseases and Localities, and distinguishing Deaths of Children under five years of age.

URBAN SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																						
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
Abram	Under 5..	..	5	3	4	1	..	..	..	..	..	13	6	..	..	1	..	..	24	..	..	..	3	..	30
	5 upwards	..	1	2	6	..	..	..	10	..	..	2	..	..	..	7	2	4	7	..	10	..	8	1	19
Accrington (Borough)..	Under 5..	..	20	5	3	4	4	..	2	..	..	28	10	..	..	1	12	..	56	..	2	..	7	..	93
	5 upwards	..	1	4	..	1	..	..	6	..	..	4	4	2	2	39	13	25	83	10	57	10	10	5	183
Adlington	Under 5..	..	..	..	3	..	..	..	..	..	..	1	5	..	..	1	..	..	..	..	2	..	2	..	10
	5 upwards	..	..	..	1	..	..	..	..	..	..	..	1	..	..	2	..	2	3	..	5	..	3	1	10
Allerton	Under 5..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	1	..	1	1	..	..	1
Ashton-in-Makerfield ..	Under 5..	..	..	3	1	3	4	..	..	..	..	46	10	..	..	..	16	..	30	..	1	..	2	..	75
	5 upwards	..	..	1	2	..	..	..	4	..	..	3	1	1	3	23	..	11	32	1	20	..	7	1	57
Ashton-under-Lyne (Borough)	Under 5..	..	3	3	5	2	4	..	..	..	..	52	17	2	..	1	8	..	46	..	2	..	1	..	128
	5 upwards	..	..	5	1	..	1	..	3	..	..	5	1	2	..	78	3	31	126	6	58	5	8	3	211
Aspull	Under 5..	..	4	4	14	1	..	..	1	..	..	11	12	1	..	..	5	..	18	..	..	..	2	..	18
	5 upwards	..	..	..	5	..	..	..	1	..	..	3	1	2	1	3	1	4	18	..	12	..	7	1	37
Atherton	Under 5..	..	..	2	2	..	2	..	..	..	..	59	17	..	..	..	12	..	19	..	..	..	..	..	34
	5 upwards	..	..	2	..	..	..	..	8	..	..	..	3	1	2	14	2	8	32	5	24	1	6	1	47
Audenshaw	Under 5..	..	..	..	2	..	..	..	..	..	..	2	..	..	..	..	..	..	10	..	..	..	1	..	21
	5 upwards	..	..	..	1	..	..	..	..	..	..	1	..	..	..	6	1	6	6	3	7	1	4	1	23

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																						
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
Bacup (Borough)	Under 5..	..	5	3	1	2	3	..	..	..	..	9	6	..	..	..	4	..	27	..	..	..	2	..	46
	5 upwards	..	..	..	..	..	..	..	3	..	..	..	7	..	..	19	5	13	49	1	28	2	5	1	123
Barrowford	Under 5..	..	1	1	..	..	1	..	..	..	..	..	4	..	..	..	..	..	4	..	..	..	1	..	14
	5 upwards	..	1	1	4	..	..	..	2	..	..	..	..	..	..	3	..	3	14	1	3	..	2	1	8
Billinge	Under 5..	..	..	2	..	..	1	..	..	..	..	8	..	..	..	..	5	..	6	..	..	..	..	..	14
	5 upwards	..	..	..	..	..	..	..	2	..	..	1	..	..	..	2	..	2	8	..	4	..	3	..	14
Birkdale	Under 5..	..	1	..	3	..	5	..	..	..	..	5	7	..	..	1	..	..	11	..	..	..	..	..	33
	5 upwards	..	..	..	1	..	..	..	1	..	..	..	3	..	..	16	..	8	15	3	11	..	1	..	74
Blackpool (Borough)	Under 5..	..	4	11	17	..	12	..	..	..	..	41	6	..	..	2	14	1	37	1	..	..	5	..	125
	5 upwards	..	..	4	16	1	..	..	12	..	..	..	..	1	1	47	10	58	74	24	75	4	18	4	211
Blackrod	Under 5..	..	3	1	..	..	..	..	..	..	..	8	..	..	..	..	2	..	9	..	..	1	..	..	5
	5 upwards	..	..	1	..	..	..	..	..	..	..	1	..	..	1	..	1	1	7	1	7	1	..	..	26
Brierfield	Under 5..	..	..	2	1	..	2	..	..	..	..	10	..	..	..	..	1	..	6	..	..	..	2	..	29
	5 upwards	..	..	1	2	..	..	..	..	..	..	..	..	..	..	6	..	1	15	1	9	..	1	1	26
Carnforth	Under 5..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	9
	5 upwards	..	..	..	..	..	..	..	4	..	..	..	..	..	..	1	..	2	3	..	2	..	1	2	6
Chadderton	Under 5..	..	23	2	10	..	11	..	..	..	..	10	8	..	..	1	5	..	37	..	1	1	4	..	77
	5 upwards	..	1	5	3	..	..	..	1	..	..	4	1	..	..	39	8	17	50	3	42	3	18	6	108
Childwall	Under 5..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																							
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
Chorley (Borough)	Under 5..	..	10	1	3	3	1	..	..	..	..	17	26	..	..	2	8	..	21	..	..	3	4	..	88
	5 upwards	..	..	..	..	..	..	..	3	..	..	2	11	..	2	24	5	20	44	5	42	12	9	3	116
Church	Under 5..	..	..	1	2	..	1	..	..	..	..	14	..	..	..	1	4	..	5	..	..	..	..	..	20
	5 upwards	..	..	..	..	..	..	..	..	..	..	2	1	..	1	10	2	6	16	..	5	..	1	2	32
Clayton-le-Moors	Under 5..	..	1	..	4	1	..	..	..	..	..	3	5	1	..	1	2	..	13	..	..	..	..	..	16
	5 upwards	..	..	..	2	..	..	..	1	..	..	..	..	..	..	10	1	4	10	5	8	2	1	..	22
Clitheroe (Borough) ..	Under 5..	..	..	5	2	1	7	..	..	..	..	3	4	..	..	..	3	..	13	..	..	..	1	..	22
	5 upwards	..	..	1	..	1	..	..	2	..	..	..	1	..	2	9	1	9	18	..	9	1	4	1	63
Colne (Borough)	Under 5..	..	..	2	4	..	6	..	..	..	..	12	6	1	..	..	3	..	38	..	3	..	..	..	68
	5 upwards	..	..	..	4	..	1	..	4	..	..	..	3	1	1	21	1	12	29	6	29	..	4	..	71
Crompton	Under 5..	..	..	..	4	2	1	..	..	..	..	3	3	..	..	1	4	..	13	..	1	..	..	..	42
	5 upwards	..	..	..	2	..	..	..	2	..	..	4	..	..	2	7	1	8	28	1	23	3	8	2	62
Croston	Under 5..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	3
	5 upwards	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	4	..	2	..	1	..	9
Dalton-in-Furness	Under 5..	..	..	..	1	..	3	..	..	..	..	12	..	..	..	..	8	1	16	..	..	..	..	..	50
	5 upwards	..	..	..	..	..	..	..	..	..	..	1	..	..	1	17	2	11	23	1	7	8	9	3	51
Darwen (Borough).....	Under 5..	..	7	8	22	..	11	..	1	..	..	14	19	..	..	..	7	..	59	..	3	..	1	..	93
	5 upwards	..	..	6	13	..	..	..	3	..	..	3	5	..	..	29	11	35	79	..	55	1	5	3	127
Denton	Under 5..	..	1	..	1	..	..	..	1	..	..	7	2	..	..	2	7	..	10	..	..	..	3	..	52
	5 upwards	..	..	..	2	1	..	..	3	..	..	..	..	..	3	24	2	12	23	5	21	2	13	4	51

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																						
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
Droylsden	Under 5..	..	2	1	5	..	8	..	..	..	..	16	2	..	..	..	3	..	11	..	..	..	..	..	24
	5 upwards	..	..	..	..	..	..	..	1	..	..	..	2	..	2	6	3	6	27	..	13	3	3	1	47
Eccles (Borough)	Under 5..	..	7	4	5	2	5	..	1	..	..	44	9	1	..	1	19	..	32	..	2	..	1	..	84
	5 upwards	..	..	6	7	..	..	..	8	..	..	7	..	1	5	42	4	25	62	10	43	4	16	3	115
Failsworth	Under 5..	..	6	2	1	..	5	..	..	..	..	15	..	..	..	1	9	..	18	..	..	..	3	..	62
	5 upwards	..	1	1	..	..	1	..	4	..	..	2	..	..	..	16	2	5	23	4	25	1	11	..	39
Farnworth	Under 5..	..	25	4	5	1	6	..	2	..	..	36	17	..	..	..	5	..	37	..	1	..	..	..	102
	5 upwards	..	..	5	3	1	..	..	7	..	..	1	2	1	1	21	7	9	46	3	21	..	4	1	120
Fleetwood	Under 5..	..	1	..	..	..	..	..	..	..	..	12	1	..	..	..	..	..	20	..	..	..	3	..	29
	5 upwards	..	..	..	..	..	..	..	4	..	..	..	..	..	..	4	..	2	16	..	24	..	10	1	47
Fulwood	Under 5..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	5
	5 upwards	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	2	2	2	5	..	3	1	11
Garston	Under 5..	..	6	..	4	1	10	..	..	..	..	22	22	..	..	..	3	..	36	..	1	..	1	..	58
	5 upwards	..	1	2	2	..	2	..	1	..	..	4	2	..	..	9	1	8	32	..	10	3	11	..	52
Golborne	Under 5..	..	2	1	..	1	1	..	..	..	..	17	..	..	..	..	..	..	10	..	..	..	1	..	26
	5 upwards	..	..	..	..	..	..	..	..	..	..	2	..	..	..	1	..	2	12	..	3	..	4	..	20
Gorton	Under 5..	..	4	..	2	3	7	..	1	..	..	74	13	..	..	2	29	..	30	..	..	..	3	..	92
	5 upwards	..	1	1	1	1	1	..	7	..	..	3	..	..	1	34	5	15	63	10	25	4	10	1	106
Grange	Under 5..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	2
	5 upwards	..	..	..	..	..	..	..	1	..	..	..	..	..	..	6	..	3	2	..	1	..	1	..	6

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																						
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
Great Crosby.....	Under 5..	..	2	..	..	..	..	..	..	..	..	3	4	..	..	..	1	..	9	..	1	..	1	..	11
	5 upwards	..	..	..	2	..	..	..	1	..	..	..	2	..	..	8	..	4	8	..	11	..	3	..	24
Great Harwood.....	Under 5..	..	..	6	..	..	..	..	..	..	..	11	3	1	..	1	..	..	18	..	..	..	1	..	33
	5 upwards	..	..	3	1	1	..	..	4	..	..	1	1	..	..	11	7	8	19	4	14	2	1	1	45
Haslingden (Borough)..	Under 5..	..	..	2	4	..	2	..	1	..	..	9	6	..	..	..	8	..	11	..	..	..	2	..	36
	5 upwards	..	..	..	1	..	1	..	2	1	..	1	5	1	..	15	5	8	37	3	39	3	4	1	53
Haydock	Under 5..	..	..	3	7	..	4	..	..	..	..	27	4	..	..	..	3	..	8	..	..	..	1	..	40
	5 upwards	..	..	3	1	..	..	..	3	..	..	..	1	..	1	6	1	2	12	..	5	3	7	1	21
Heaton Norris	Under 5..	..	..	..	..	..	5	..	..	..	..	8	..	..	..	1	3	..	..	..	..	..	..	..	10
	5 upwards	..	..	..	..	1	..	..	1	..	..	1	..	..	2	10	1	7	8	1	7	1	1	1	45
Heysham	Under 5..	..	..	..	..	..	1	..	..	..	..	..	2	..	..	..	3	..	..	..	..	..	..	..	7
	5 upwards	..	..	..	..	..	..	..	1	..	..	..	..	..	..	7	1	1	3	1	3	..	..	1	9
Heywood (Borough)	Under 5..	..	1	..	3	1	2	..	..	..	..	21	4	..	..	2	10	..	27	..	3	1	1	..	32
	5 upwards	..	..	..	2	..	1	..	1	..	..	3	..	1	1	52	3	17	51	6	35	5	6	4	112
Hindley	Under 5..	..	12	2	12	1	2	..	..	..	..	58	16	..	..	2	27	..	71	..	1	..	3	..	82
	5 upwards	..	1	..	11	1	..	..	8	..	..	10	1	..	3	16	11	6	35	5	28	..	4	1	73
Horwich	Under 5..	..	..	2	1	1	5	..	..	..	..	9	11	..	..	..	6	..	19	..	..	..	1	..	41
	5 upwards	..	..	..	1	..	1	..	1	..	..	1	..	1	..	6	2	7	26	3	10	1	3	..	52
Hurst	Under 5..	..	..	1	..	1	..	..	..	..	..	5	..	..	..	3	..	..	4	..	..	..	..	..	36
	5 upwards	..	..	1	..	..	..	..	3	..	..	..	..	..	1	11	..	..	13	1	9	..	..	..	28

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																						
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
Huyton-with-Roby	Under 5..	..	1	1	..	..	..	..	..	..	..	4	..	..	..	..	5	..	8	..	..	..	..	..	14
	5 upwards	..	..	..	..	..	..	..	2	..	..	..	..	..	..	3	..	4	3	..	8	..	1	..	20
Ince-in-Makerfield	Under 5..	..	15	..	7	1	6	..	..	..	..	53	41	..	..	..	9	..	59	..	1	..	2	..	107
	5 upwards	..	2	2	4	..	..	..	7	..	..	2	1	3	1	13	1	6	59	3	6	5	9	..	67
Irlam	Under 5..	..	..	..	6	..	1	..	..	..	..	3	..	..	..	..	3	..	..	..	..	1	1	..	14
	5 upwards	..	..	..	2	..	..	..	1	..	..	1	..	..	..	2	..	1	4	1	5	1	3	..	16
Kearsley	Under 5..	..	2	1	1	..	4	..	1	..	..	17	6	..	..	..	5	..	10	..	..	..	1	..	29
	5 upwards	..	..	1	..	..	..	..	4	..	..	1	..	..	..	14	3	1	16	..	7	..	6	..	29
Kirkham	Under 5..	..	..	..	..	..	1	..	..	..	..	3	..	..	..	1	4	..	5	..	..	..	2	..	16
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	3	..	3	..	2	2	1	..	21
Lancaster (Borough) ..	Under 5..	..	12	3	21	1	25	..	..	..	..	28	27	..	..	2	12	..	63	..	1	..	6	..	110
	5 upwards	..	1	2	8	1	3	..	6	..	..	3	4	..	1	62	5	21	68	5	41	3	13	4	165
Lathom and Burscough	Under 5..	..	..	..	2	..	6	..	..	..	..	2	6	..	..	..	6	..	6	..	..	..	1	..	19
	5 upwards	..	..	..	..	..	1	..	..	..	..	..	..	..	..	6	3	3	5	1	8	2	4	1	27
Lees	Under 5..	..	..	..	..	1	..	..	..	..	..	3	1	..	..	..	..	..	2	..	..	..	..	..	16
	5 upwards	..	..	..	..	1	..	..	..	..	..	1	..	..	..	4	..	..	8	..	8	..	..	..	16
Leigh (Borough)	Under 5..	..	11	5	3	3	13	..	..	..	..	79	13	..	..	2	10	1	63	..	3	..	4	..	117
	5 upwards	..	..	1	2	3	..	..	8	..	..	5	2	2	..	40	13	27	72	11	39	2	15	4	125
Levenshulme	Under 5..	..	3	..	..	..	1	..	..	..	..	9	4	..	..	..	7	..	6	..	1	..	1	..	32
	5 upwards	..	..	2	..	..	..	..	1	1	..	..	2	..	..	6	2	7	18	3	9	2	2	..	33

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																						
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
Leyland	Under 5..	..	..	5	1	1	..	..	..	..	..	2	6	..	..	..	..	..	6	..	1	..	..	..	10
	5 upwards	..	..	1	..	..	..	..	3	..	..	..	3	..	..	3	..	6	8	3	18	..	..	..	31
Litherland	Under 5..	..	..	8	2	..	2	..	..	..	..	22	16	..	..	1	..	..	17	..	2	..	1	..	27
	5 upwards	..	..	..	1	..	..	..	2	..	..	..	..	..	..	9	..	5	16	1	6	..	4	..	20
Littleborough	Under 5..	..	..	..	3	1	..	..	..	..	..	..	3	..	..	1	6	..	13	..	..	..	1	..	31
	5 upwards	..	..	..	..	..	..	..	4	..	..	..	..	..	..	18	2	14	28	..	18	5	7	1	51
Little Crosby	Under 5..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	2
Little Hulton	Under 5..	..	..	..	3	2	..	..	1	..	..	9	3	..	..	..	6	..	5	..	..	..	..	..	16
	5 upwards	..	..	..	1	1	..	..	3	..	..	1	..	1	..	8	..	5	9	1	7	..	4	..	19
Little Lever	Under 5..	..	..	1	1	..	..	..	..	..	..	11	1	..	..	..	2	..	12	..	..	1	1	..	11
	5 upwards	..	..	1	4	..	..	..	9	..	..	..	..	1	1	4	2	2	13	1	5	1	3	..	19
Little Woolton	Under 5..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	2	4	..	..	..	..
Longridge	Under 5..	..	..	3	1	3	..	..	..	..	..	1	1	..	..	..	..	..	5	..	..	1	..	..	17
	5 upwards	..	..	..	3	1	..	..	..	..	..	..	1	..	..	3	4	3	8	..	3	..	2	2	26
Lytham	Under 5..	..	..	..	1	..	4	..	..	..	..	1	3	..	..	..	1	..	2	..	..	..	2	..	15
	5 upwards	..	..	..	..	1	..	..	2	..	..	1	2	1	..	7	..	3	11	1	10	1	3	..	34
Middleton (Borough)	Under 5..	..	7	2	4	1	8	..	..	..	..	10	6	..	..	1	3	..	26	..	1	1	1	..	77
	5 upwards	..	..	..	..	..	2	..	..	..	..	2	3	1	3	47	13	24	55	2	43	3	12	4	131

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																							
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
Milnrow	Under 5	..	1	1	..	..	..	..	..	..	..	3	6	..	..	..	3	..	2	..	..	..	1	..	10
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14	1	5	15	..	9	1	2	4	41
Morecambe	Under 5	..	2	..	1	..	..	..	..	..	..	6	6	..	..	..	7	..	10	..	..	..	1	..	15
	5 upwards	..	..	1	..	..	..	..	..	..	..	..	..	1	..	3	5	5	19	3	15	..	1	..	56
Mossley (Borough)	Under 5	..	1	5	4	4	1	..	..	..	..	4	3	..	..	..	4	..	6	..	..	..	1	..	36
	5 upwards	..	1	3	7	..	..	..	3	..	..	2	5	..	..	9	7	13	28	2	27	2	3	1	80
Moss Side	Under 5	..	8	2	3	..	1	..	..	..	..	19	2	..	..	2	11	..	19	..	4	..	1	..	35
	5 upwards	..	..	4	1	..	1	..	..	..	..	1	..	..	..	25	..	32	57	1	30	1	5	1	98
Much Woolton	Under 5	..	5	..	..	..	..	..	..	..	..	7	..	..	..	..	2	..	6	..	..	..	..	..	8
	5 upwards	..	2	..	1	..	..	..	..	..	..	..	..	..	..	7	..	5	13	2	6	..	1	..	15
Nelson (Borough)	Under 5	..	..	4	6	2	13	..	..	..	..	8	11	..	..	1	7	..	38	..	..	..	2	..	84
	5 upwards	..	..	..	1	..	1	..	4	..	..	..	6	1	1	19	5	22	66	1	31	..	7	3	107
Newton-in-Makerfield	Under 5	..	2	1	2	1	5	..	..	..	..	13	13	..	..	..	3	..	30	..	1	..	3	..	37
	5 upwards	..	..	1	2	..	..	..	1	..	..	1	1	..	..	8	5	3	20	6	25	..	8	1	54
Norden	Under 5	..	..	..	3	..	..	..	..	..	..	1	..	..	..	..	..	..	9	..	..	..	..	..	10
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	..	1	2	..	6	..	3	..	13
Ormskirk	Under 5	..	..	..	1	..	..	..	..	..	..	5	..	..	..	1	..	..	8	..	1	..	2	..	33
	5 upwards	..	..	..	..	..	..	..	..	..	..	1	..	..	..	10	..	5	21	1	11	1	2	..	31
Orrell	Under 5	..	1	2	..	..	1	..	..	..	2	13	..	..	..	..	5	..	8	..	..	..	..	..	20
	5 upwards	..	..	..	..	..	..	..	5	..	..	3	..	..	..	5	..	2	5	..	6	..	..	..	21

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																						
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
Oswaldtwistle	Under 5..	..	1	3	9	..	4	..	1	..	..	7	4	..	..	3	13	..	23	..	..	..	3	..	50
	5 upwards	..	..	2	3	..	..	..	2	..	..	..	1	..	..	8	6	10	29	5	11	1	2	2	51
Padiham	Under 5..	..	1	..	1	1	1	..	..	..	..	10	12	..	..	..	3	..	11	..	..	..	1	..	64
	5 upwards	..	..	2	1	..	..	..	2	..	..	2	4	..	..	17	1	3	22	..	23	2	1	1	63
Pemberton	Under 5..	..	2	4	1	..	..	..	..	..	..	49	13	..	..	2	10	..	39	..	..	..	1	..	77
	5 upwards	..	4	1	2	..	..	..	4	..	..	..	1	2	1	15	4	..	36	4	22	3	8	1	90
Poulton-le-Fylde	Under 5..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	2	..	..	..	1	..	5
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	5	1	..	3	..	..	..	11
Preesall-with-Hackinsall	Under 5..	..	..	2	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..
	5 upwards	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	3	..	5	..	..	..	7
Prescot	Under 5..	..	..	..	1	..	..	..	1	..	..	7	10	..	..	..	5	..	6	..	..	..	1	..	34
	5 upwards	..	..	..	..	..	..	..	5	..	..	2	1	..	..	10	2	5	14	..	11	..	2	..	31
Prestwich	Under 5..	..	2	2	5	..	1	..	..	..	..	4	6	..	..	..	10	..	6	..	..	..	..	..	10
	5 upwards	..	..	1	10	..	..	..	2	..	..	..	1	..	..	11	1	12	22	2	10	2	1	..	34
Radcliffe	Under 5..	..	8	..	10	1	3	..	..	..	..	32	..	..	..	..	3	..	34	..	1	..	1	..	79
	5 upwards	..	..	..	6	..	..	..	8	..	..	4	3	1	..	31	4	12	64	3	29	5	9	2	113
Rainford	Under 5..	..	..	..	2	..	1	..	..	..	..	1	2	..	..	..	..	..	1	..	1	..	..	..	8
	5 upwards	..	..	1	..	..	..	..	..	..	..	1	..	..	..	1	..	4	5	..	6	..	2	..	9
Ramsbottom	Under 5..	..	..	..	3	..	1	..	..	..	..	10	3	..	..	..	2	..	9	..	..	..	1	..	34
	5 upwards	..	..	..	1	..	..	..	2	..	..	5	1	..	..	24	1	16	30	3	27	2	3	1	72

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																						
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
Rawtenstall (Borough)	Under 5..	..	..	5	6	1	2	..	..	..	..	9	11	..	..	..	7	..	34	..	..	..	3	..	76
	5 upwards	..	..	1	..	..	..	..	3	..	..	5	4	..	1	25	14	26	72	3	51	10	8	2	141
*Reddish	Under 5..	..	1	..	..	..	1	..	..	..	..	6	2	..	..	..	4	..	6	..	..	..	2	..	18
	5 upwards	..	..	1	..	..	..	..	1	..	..	..	..	..	1	14	1	3	11	1	5	1	5	1	20
Rishton	Under 5..	..	..	..	5	..	..	..	1	..	..	7	2	..	..	1	4	..	3	..	..	..	..	..	16
	5 upwards	..	..	..	..	..	1	..	4	..	..	1	1	1	1	9	1	4	10	1	3	..	5	4	18
Royton	Under 5..	..	11	3	4	1	2	..	..	..	..	7	..	..	..	..	4	..	10	..	1	..	1	..	44
	5 upwards	..	..	4	2	..	1	..	..	1	..	2	..	..	1	10	5	6	50	2	30	..	3	..	63
St. Annes-on-the-Sea	Under 5..	..	..	1	3	..	2	..	..	..	..	1	4	..	..	..	1	..	1	..	..	..	1	..	20
	5 upwards	..	..	..	1	..	..	..	4	..	..	..	1	1	..	7	..	5	8	1	5	2	1	..	33
Skelmersdale	Under 5..	..	..	..	..	..	2	..	..	..	..	2	1	..	..	..	1	1	12	..	..	..	..	..	23
	5 upwards	..	..	..	2	..	..	..	1	..	..	..	..	1	..	7	..	4	14	3	7	..	..	1	24
Southport (Borough)	Under 5..	..	..	1	11	3	15	..	..	..	..	26	15	..	..	1	9	..	22	..	1	..	4	..	112
	5 upwards	..	1	6	4	2	1	..	9	..	..	4	1	1	1	53	10	62	80	18	65	4	7	5	222
Standish-with-Langtree	Under 5..	..	..	..	2	1	2	..	..	..	..	12	..	..	..	..	..	..	9	..	..	..	..	..	25
	5 upwards	..	..	..	1	..	..	..	1	..	..	..	..	1	..	7	..	..	12	..	3	..	9	..	27
Stretford	Under 5..	..	4	5	14	1	5	..	..	..	..	17	5	1	..	4	9	..	18	..	2	1	2	..	4
	5 upwards	..	1	7	5	..	..	..	3	..	..	2	2	2	4	29	7	24	51	9	45	1	19	3	99

* By the Extension of the County Borough of Stockport, 9th November, 1901, the whole of this district was absorbed. Statistics refer to 10 months.

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																						
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
Swinton and Pendlebury	Under 5	..	7	5	11	..	15	..	..	..	..	37	19	..	..	..	31	..	41	..	2	1	4	..	72
	5 upwards	..	..	1	15	..	..	..	16	..	..	1	6	..	..	16	7	9	68	2	39	4	11	2	77
Thornton	Under 5	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	4	..	..	..	..	..	11
	5 upwards	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	..	1	..	3	..	..	..	12
Tottington	Under 5	..	3	1	1	..	..	..	..	..	..	1	1	..	..	1	..	..	7	..	..	..	5	..	9
	5 upwards	..	..	..	..	..	..	..	2	..	..	..	..	..	..	5	1	5	15	2	8	1	6	1	22
Trawden	Under 5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	9
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	5	2	4	..	1	..	8
Turton	Under 5	..	..	3	1	1	1	..	..	..	..	..	2	..	..	..	1	..	10	..	1	..	2	..	13
	5 upwards	..	..	2	3	..	..	..	1	..	..	..	..	1	..	12	2	12	14	1	14	1	1	2	53
Tyldesley-with-Shakerley	Under 5	..	2	4	5	1	..	..	..	..	..	24	16	..	..	..	7	..	35	..	..	1	2	..	49
	5 upwards	..	..	1	2	..	..	..	7	..	..	2	..	..	1	7	5	8	29	1	15	1	8	..	50
Ulverston	Under 5	..	..	4	..	2	..	..	1	..	..	5	1	..	..	1	4	..	4	..	..	..	1	..	26
	5 upwards	..	..	..	..	..	..	..	1	..	..	..	1	1	2	8	3	7	22	2	14	1	2	..	44
Upholland	Under 5	..	3	1	1	..	1	..	..	..	..	6	..	..	..	..	1	..	7	..	..	..	2	..	18
	5 upwards	..	..	..	3	..	..	..	1	..	..	1	..	..	..	4	..	1	7	..	13	..	3	..	13
Urmston	Under 5	..	..	1	..	..	..	..	..	..	..	6	1	..	..	..	2	..	6	..	..	..	..	..	17
	5 upwards	..	..	..	2	..	..	..	1	..	..	..	..	..	..	5	..	3	9	..	10	..	2	..	24
Walton-le-Dale	Under 5	..	..	3	1	1	3	..	..	..	..	8	..	..	..	..	3	..	4	..	..	..	2	..	
	5 upwards	..	..	1	1	..	..	..	4	..	..	..	..	..	..	10	..	7	15	..	9	..	3	3	36

TABLE II.—Continued.

URBAN SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																						
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
Wardle	Under 5..	..	..	..	1	..	..	..	..	..	..	..	1	..	..	..	..	..	6	..	..	..	..	..	4
	5 upwards	..	..	1	..	..	..	..	1	..	..	..	1	..	..	5	..	5	13	..	6	..	1	1	16
Waterloo-with-Seaforth	Under 5..	..	..	..	3	..	1	..	..	..	..	19	10	..	..	..	5	..	15	..	..	..	..	..	41
	5 upwards	..	..	1	2	..	..	..	3	..	..	..	1	..	..	16	6	10	29	5	34	..	3	3	74
Westhoughton	Under 5..	..	1	1	4	1	..	..	..	..	..	21	1	..	..	1	2	..	27	..	..	..	..	..	45
	5 upwards	..	..	2	1	..	..	..	5	..	..	2	1	..	1	9	3	8	33	1	12	2	8	..	41
Whitefield	Under 5..	..	5	..	3	..	2	..	1	..	..	9	..	1	..	..	..	..	8	..	..	..	..	..	23
	5 upwards	..	1	..	8	..	..	..	1	..	..	..	2	..	..	7	1	6	13	..	13	..	3	2	19
Whitworth	Under 5..	..	..	..	..	..	1	..	1	..	..	..	..	1	..	..	3	..	17	..	1	..	..	..	22
	5 upwards	..	..	..	..	..	..	..	2	..	..	..	..	..	..	17	8	8	21	..	12	3	4	1	43
Widnes (Borough)	Under 5..	..	1	1	4	1	17	..	..	..	..	2	86	..	..	..	16	..	45	..	..	..	2	..	82
	5 upwards	..	2	2	4	..	1	..	17	..	..	..	17	..	3	12	14	..	56	1	28	..	8	..	93
Withington	Under 5..	..	1	1	3	..	5	..	..	..	..	22	3	1	..	..	14	..	10	..	..	1	2	..	51
	5 upwards	..	..	..	3	..	..	..	1	..	..	2	1	2	1	26	3	37	56	4	53	9	4	3	94
Withnell	Under 5..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	1	..	13
	5 upwards	..	..	..	..	..	..	..	..	..	..	..	..	..	1	4	..	2	8	..	9	1	2	..	16
Worsley	Under 5..	..	1	..	2	1	4	..	..	..	..	11	1	..	..	..	6	1	10	..	..	..	..	..	21
	5 upwards	..	..	..	1	..	..	..	3	..	..	2	..	1	2	10	4	9	16	..	20	2	3	1	63

TABLE III.—DEATHS registered during the year 1901, in the **RURAL SANITARY DISTRICTS** of the Administrative County of Lancaster, classified according to Ages and Localities, and showing also the Area and Population of such Localities, and the Birth-rate and Death-rate therein during the year.

NOTES :—(*a*) The Area and Population of each District are taken from the "corrected" Census Return.

(*b*) The Deaths of Residents registered in Public Institutions beyond the limits of the Districts are included in these Tables, and the Deaths of Non-Residents registered in Public Institutions in the Districts are excluded.

RURAL SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1901.		Birth-Rate.	Death-Rate.	Death Rate from the seven principal Zymotic Diseases.	Phthisis Death Rate.	Respiratory Death Rate.		At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
BARTON-UPON-IRWELL ..	6872	8065	8065	192	23·8	13·8	1·98	1·11	1·85	98	112	19	14	7	8	41	23
BLACKBURN	*20590	9828	9828	217	22·0	18·8	1·72	0·61	3·66	165	185	36	23	15	13	46	52
BURNLEY	41097	16589	16589	373	22·4	12·7	1·08	0·72	2·17	131	212	49	24	10	13	70	46
BURY	12014	8088	8088	153	18·9	11·8	1·60	0·49	2·34	143	96	22	12	2	4	34	22
CHORLEY	39988	19310	19310	542	28·0	13·1	1·24	0·72	2·38	101	253	55	30	12	2	72	82
CLITHEROE (Lancashire portion)	33459	6726	6726	157	23·3	16·2	1·33	0·74	2·23	108	109	17	9	11	..	32	40
FYLDE	40114	11220	11220	290	25·8	14·8	1·33	0·89	1·42	113	167	33	14	8	10	57	45
GARSTANG	57380	10437	10437	248	23·7	11·6	0·37	0·57	1·82	72	122	18	10	4	5	41	44
LANCASTER	54503	8837	8837	189	21·3	14·1	1·47	0·79	1·69	116	125	22	12	3	7	37	44
LEIGH	11574	8410	8410	273	32·4	17·0	2·02	0·71	3·80	135	143	37	18	6	4	37	41

* By the extension of the County Borough of Blackburn, 9th November, 1901, the acreage of this district was reduced to 20150.

TABLE III.—Continued.

RURAL SANITARY DISTRICTS.	Area in Statute Acres.	Population at all ages.		Registered Births.	Annual Rates per 1000 of estimated population.					Rate of Infant Mortality measured by the proportion of deaths under 1 yr. to 1000 births.	Mortality from all causes at subjoined ages.						
		Census, 1901.	Estimate to middle of 1901.		Birth-Rate.	Death-Rate.	Death Rate from the seven principal Zymotic Diseases.	Phthisis Death Rate.	Respiratory Death Rate.		At all Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Limehurst	4772	10338	10338	275	26·6	15·9	1·93	1·35	2·61	145	165	40	15	11	6	63	30
Lunesdale	76267	6948	6948	162	23·3	15·2	0·71	1·00	1·87	111	106	18	6	3	2	39	38
Preston	52929	†15997	†15997	422	26·3	14·5	1·18	0·43	2·81	111	233	47	25	11	16	68	66
Sefton	16949	9384	9384	251	26·7	13·3	2·77	0·42	1·91	135	125	34	18	5	5	36	27
Ulverston	127871	17716	17716	387	21·8	14·5	0·73	0·95	1·69	74	257	29	15	11	12	84	106
Warrington	19360	10496	10826	306	28·2	13·2	2·21	0·55	2·12	127	143	39	16	10	3	39	36
West Lancashire.....	69051	26645	26813	684	25·5	13·8	1·45	1·00	2·57	115	372	79	28	18	18	125	104
Whiston	31281	18961	18961	507	26·7	13·0	1·21	0·84	2·26	134	248	68	23	10	9	82	56
Wigan	11695	6045	6045	167	27·6	17·0	0·66	1·15	3·30	149	103	25	13	4	8	27	26

† Excluding a population of 2432 in Public Institutions.

TABLE IV.—DEATHS registered during the year 1901, in the **RURAL SANITARY DISTRICTS** of the Administrative County of Lancaster, classified according to Diseases and Localities, and distinguishing Deaths of Children under five years of age.

RURAL SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																							
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
Barton-upon-Irwell ..	Under 5..	..	..	1	4	..	1	..	..	..	..	2	1	..	..	1	6	..	6	..	..	..	..	..	11
	5 upwards	..	..	1	4	..	..	..	2	..	..	1	1	..	1	8	..	2	9	2	8	4	1	4	31
Blackburn	Under 5..	..	1	1	2	1	1	..	..	..	..	4	3	..	..	..	4	..	7	..	..	..	1	..	34
	5 upwards	..	..	1	4	1	..	..	3	..	..	..	..	..	..	6	3	9	29	..	19	3	1	2	45
Burnley	Under 5..	..	2	1	2	..	3	..	..	..	..	4	6	..	..	2	2	..	12	..	..	..	2	..	37
	5 upwards	..	2	1	2	1	..	..	..	..	..	1	..	1	..	10	1	10	24	1	12	4	8	4	57
Bury	Under 5..	..	7	..	...	..	1	..	..	..	..	3	3	..	..	..	1	..	6	..	1	..	..	..	12
	5 upwards	..	..	1	..	..	..	..	1	..	..	..	1	..	..	4	..	4	13	..	7	..	4	1	26
Chorley	Under 5..	..	..	6	8	1	..	..	..	..	..	1	11	..	..	1	4	..	20	..	..	..	3	..	30
	5 upwards	..	..	2	1	1	..	..	2	..	1	3	1	1	4	13	1	11	26	2	19	5	4	3	68
Clitheroe (Lancashire portion)	Under 5..	..	..	3	..	..	1	..	..	..	..	1	..	..	..	..	3	..	2	..	..	..	2	..	14
	5 upwards	..	..	1	2	2	..	..	..	1	..	..	4	1	1	5	1	5	13	..	16	2	2	1	26

TABLE IV.—Continued.

RURAL SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																							
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
Fylde	Under 5..	..	..	2	1	..	2	..	..	..	..	5	..	..	..	..	5	..	9	..	..	..	1	..	22
	5 upwards	..	..	2	..	..	..	..	2	..	..	1	..	..	..	10	3	7	7	3	17	5	1	1	61
Garstang	Under 5..	..	..	..	1	..	..	..	..	..	..	2	..	..	..	..	..	..	4	..	1	..	..	..	20
	5 upwards	..	..	1	..	..	..	..	..	..	..	..	..	..	..	6	3	9	15	5	14	..	3	..	38
Lancaster	Under 5..	..	..	..	1	..	4	..	..	..	..	1	1	..	..	1	1	..	5	..	1	..	1	..	18
	5 upwards	..	..	..	..	..	..	..	4	1	..	2	..	..	..	6	1	2	10	4	11	2	2	..	46
Leigh	Under 5..	..	4	..	2	1	..	..	..	..	..	9	1	..	..	..	1	..	15	..	..	..	1	..	21
	5 upwards	..	..	..	2	..	..	..	..	..	..	..	2	..	1	6	1	1	17	2	15	1	5	1	34
Limehurst	Under 5..	..	1	2	..	..	1	..	..	..	..	9	..	..	..	2	..	..	7	..	..	..	3	..	30
	5 upwards	..	..	3	..	..	..	..	2	..	..	2	..	..	1	12	..	..	20	..	12	..	12	..	46
Lunesdale	Under 5..	..	..	..	2	1	2	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	17
	5 upwards	..	..	..	1	..	..	..	..	..	..	..	..	..	..	7	..	..	11	..	7	..	2	1	53
Preston	Under 5..	..	..	..	2	..	4	..	..	..	..	3	5	..	..	..	8	..	14	..	..	..	4	..	32
	5 upwards	..	..	6	1	1	..	..	2	..	..	1	..	..	2	7	1	13	31	2	12	2	1	3	76
Sefton	Under 5..	..	6	1	..	..	2	..	..	..	..	14	..	..	..	..	2	..	11	..	..	..	..	..	16
	5 upwards	..	..	..	..	..	..	..	3	..	..	..	..	..	..	4	3	10	7	..	11	1	6	..	28
Ulverston	Under 5..	..	..	..	3	..	2	..	..	..	..	5	..	..	..	2	1	..	8	..	..	..	2	..	21
	5 upwards	..	..	..	1	..	..	..	..	..	..	2	1	..	2	15	7	18	22	4	32	4	11	4	90
Warrington	Under 5..	..	1	..	1	1	..	..	..	..	..	12	1	..	..	..	..	..	9	..	..	..	1	..	29
	5 upwards	..	..	2	2	..	..	..	1	..	..	5	3	..	..	6	1	3	14	3	9	1	7	..	31

TABLE IV.—Continued.

RURAL SANITARY DISTRICTS.	Age at Death.	Mortality from subjoined causes, distinguishing Deaths of Children under five years of age.																						
		Small-pox.	Measles.	Scarlet Fever.	Diphtheria & Mem. Croup.	Croup.	Whooping Cough.	Fever.			Cholera.	Diarrhœa.	Enteritis.	Erysipelas.	Puerperal Fever.	Phthisis.	Other Tubercular Diseases.	Cancer.	Bronchitis, Pneumonia, and Pleurisy.	Alcoholism, Cirrhosis of Liver.	Heart Disease.	Epidemic Influenza.	Injuries.	Suicides.	All other Diseases.
								Typhus	Typhoid	Other continued															
West Lancashire.....	Under 5..	..	..	1	6	..	4	..	..	..	..	18	1	..	..	..	2	..	16	..	..	2	2	..	55
	5 upwards	..	..	..	2	..	..	..	4	..	..	4	1	..	2	27	1	12	53	5	31	4	16	2	101
Whiston	Under 5..	..	3	1	4	..	3	..	..	..	..	4	6	1	..	..	15	..	12	..	2	..	1	..	39
	5 upwards	..	1	..	4	..	..	..	1	..	..	2	1	1	..	16	3	10	31	..	22	..	9	2	54
Wigan	Under 5..	..	..	..	3	4	..	..	..	..	..	..	2	..	..	1	..	..	11	..	..	..	..	..	17
	5 upwards	..	..	..	..	..	..	..	1	..	..	..	..	..	..	6	..	..	9	..	8	..	6	..	35

TABLE V.—DEATHS and CASES NOTIFIED (or ascertained) in 133 Districts supplying Monthly Returns during the Year ending December 31st, 1901.

Month.	Small-pox.		Diph-theria.		Mem-branous Croup.		Erysi-pelas.		Scarlet Fever.		Fever. Typhus		Enteric		Other or doubtful		Puer-peral.		Measles.		Chicken Pox.		Whoop-ing Cough.		Total of preceding columns.		Deaths from				Deaths from all Causes.
	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Notified Cases.	Deaths.	Diarrhœa and English Cholera.	Bronchitis, Pneumonia, and Pleurisy.	Influenza.	Alcoholism, Peripheral Neuritis, and Allied causes.	
Jan	..	..	251	40	22	15	100	4	713	23	..	..	122	28	2	..	16	5	37	20	..	1	22	51	1285	187	15	495	13	15	2344
Feb.....	..	..	216	39	19	11	95	4	643	20	..	..	59	14	8	..	15	8	20	15	..	1	21	31	1096	143	17	543	28	14	2372
March...	..	..	222	43	27	18	92	3	598	17	..	..	83	17	5	..	10	6	6	21	..	1	114	29	1157	155	28	535	43	12	2288
April ..	..	..	196	33	16	10	102	2	592	23	..	..	64	15	3	..	14	8	37	32	..	..	79	42	1103	165	19	563	54	8	2469
May	1	..	191	25	22	15	106	10	611	22	..	..	93	19	2	..	15	3	64	10	..	1	38	36	1142	141	20	430	37	10	2181
June....	..	..	157	14	16	9	112	6	662	21	..	..	73	16	3	..	13	9	79	22	..	..	62	26	1177	123	32	345	13	16	1873
July	..	..	149	27	19	12	97	5	657	37	..	..	67	12	13	2	6	6	145	31	..	1	30	24	1183	157	286	263	8	22	2311
August..	..	..	129	35	13	9	86	2	530	17	..	..	267	28	5	..	11	5	31	18	..	..	11	18	1083	132	730	210	5	16	2748
Sept....	..	..	164	33	16	10	109	5	641	21	..	..	379	47	1	..	11	5	17	14	..	..	8	15	1346	150	395	251	5	7	2308
Oct.....	2	..	374	49	23	12	113	2	914	26	..	..	344	55	6	..	13	8	86	25	..	..	7	11	1882	188	105	316	14	22	2134
Nov.	..	..	287	50	34	17	116	7	756	16	..	1	213	42	5	..	11	3	105	51	6	..	26	15	1559	202	27	579	14	8	2374
Dec.....	..	..	221	41	25	8	115	4	713	27	..	..	149	20	8	..	13	7	70	41	..	..	4	14	1318	162	17	623	16	14	2489
Year ..	3	..	2556	429	252	146	1243	54	8030	270	..	1	1913	313	61	2	148	73	697	300	6	5	422	312	15331	1905	1691	5153	250	164	27891

* Notified in 6 Districts.